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# 4  
PATENT APPLICATION  
Attorney Docket No. 21402-235 (CURA-535)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Kekuda, *et al*  
SERIAL NUMBER: 10/037,417 EXAMINER: Not yet assigned  
FILING DATE: January 4, 2002 ART UNIT: 1641  
FOR: PROTEINS AND NUCLEIC ACIDS ENCODING SAME

**Box Sequence**

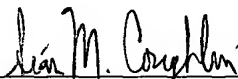
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**STATEMENT IN SUPPORT OF COMPUTER READABLE  
FORM SUBMISSION UNDER 37 C.F.R. § 1.821(f)**

I hereby state that the content of the paper and computer readable forms of the Sequence Listing, submitted in the above-identified application in accordance with 37 C.F.R. § 1.821(c) and 1.821(e), respectively, are the same. No new matter is added at this time.

Respectfully submitted,

Dated: September 20, 2002

  
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TRA 1704361v1

#4 SEQUENCE LISTING



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Burgess, Catherine E  
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Sciore, Paul  
Ellerman, Karen  
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Rothenberg, Mark  
Stone, David J  
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Gly Gly Pro Val Ala Gly Gly Asp Pro Asn Gln Thr Ile Gln Gly Gln
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Tyr Cys Asp Ile Cys Thr Ala Ala Asn Ser Asn Lys Ala His Pro Ala
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Ser Asn Ala Ile Asp Gly Thr Glu Arg Trp Trp Gln Ser Pro Pro Leu
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Ser Arg Gly Leu Glu Tyr Asn Glu Val Asn Val Thr Leu Asp Leu Gly
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Ile Cys Thr Thr Glu Tyr Ser Arg Ile Val Pro Leu Glu Asn Gly Glu  
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Ile Val Val Ser Leu Val Asn Gly Arg Pro Gly Ala Met Asn Phe Ser  
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             35                    40                    45  
 Ala Arg Gly Ser Pro Arg Pro Thr Glu Asp Leu Tyr Cys Lys Leu Val  
             50                    55                    60  
 Gly Gly Pro Val Ala Gly Gly Asp Pro Asn Gln Thr Ile Gln Gly Gln  
             65                    70                    75                    80  
 Tyr Cys Asp Ile Cys Thr Ala Ala Asn Ser Asn Lys Ala His Pro Ala  
                     85                    90                    95  
 Ser Asn Ala Ile Asp Gly Thr Glu Arg Trp Trp Gln Ser Pro Pro Leu  
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 Glu Phe Ala Gly Pro His Cys Asp Arg Cys Arg Pro Gly Tyr His Gly  
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 Phe Pro Asn Cys Ala Ala Cys Thr Cys Asp Pro Arg Gly Ala Leu Asp  
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<212> DNA  
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 35 40 45  
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 Arg Arg Cys Gln Cys Pro Gly Gly Arg Cys Asp Pro His Thr Gly Arg  
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Gln	Gln	His	Gln	Val	Pro	Val	Pro	Gly	Gly	Pro	Val	Gly	His	Ser	Ile	100	105	110	
His	Cys	Glu	Val	Cys	Asp	His	Cys	Val	Val	Leu	Leu	Leu	Asp	Asp	Leu	115	120	125	
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Ile	Asn	Ala	Ser	Ser	Met	Ala	Trp	Ala	Arg	Leu	His	Arg	Leu	Asn	Ala	145	150	155	160
Ser	Ile	Ala	Asp	Leu	Gln	Ser	Gln	Leu	Arg	Ser	Pro	Leu	Gly	Pro	Arg	165	170	175	
His	Glu	Thr	Ala	Gln	Gln	Leu	Glu	Val	Leu	Glu	Gln	Gln	Ser	Thr	Ser	180	185	190	
Leu	Gly	Gln	Asp	Ala	Arg	Arg	Leu	Gly	Gly	Gln	Ala	Val	Gly	Thr	Arg	195	200	205	
Asp	Gln	Ala	Ser	Gln	Leu	Leu	Ala	Gly	Thr	Glu	Ala	Thr	Leu	Gly	His	210	215	220	
Ala	Lys	Thr	Leu	Leu	Ala	Ala	Ile	Arg	Ala	Val	Asp	Arg	Thr	Leu	Ser	225	230	235	240
Glu	Leu	Met	Ser	Gln	Thr	Gly	His	Leu	Gly	Leu	Ala	Asn	Ala	Ser	Ala	245	250	255	
Pro	Ser	Gly	Glu	Gln	Leu	Leu	Arg	Thr	Leu	Ala	Glu	Val	Glu	Arg	Leu	260	265	270	
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Arg	Asp	Arg	Leu	Ala	Gln	His	Glu	Ala	Gly	Leu	Met	Asp	Leu	Arg	Glu	325	330	335	
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Ser	Arg	Asn	Gln	Glu	Arg	Leu	Glu	Glu	Ala	Leu	Gln	Arg	Lys	Gln	Glu	355	360	365	
Leu	Ser	Arg	Asp	Asn	Ala	Thr	Leu	Gln	Ala	Thr	Leu	His	Ala	Ala	Arg	370	375	380	

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 Arg Leu Val Glu Ala Ala Glu Ala His Ala Gln Gln Leu Gly Gln Leu  
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 Arg Trp Gln Gly Gln Tyr Glu Gly Leu Arg Gly Gln Asp Leu Gly Gln  
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 Pro Gln Leu Leu Ala Lys Leu Ser Ile Leu Glu Asn Arg Gly Val His  
 645 650 655  
 Asn Ala Ser Leu Ala Leu Ser Ala Ser Ile Gly Arg Val Arg Glu Leu  
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 Ile Ala Gln Ala Arg Gly Ala Ala Ser Lys Val Lys Val Pro Met Lys  
 675 680 685

Phe Asn Gly Arg Ser Gly Val Gln Leu Arg Thr Pro Arg Asp Leu Ala  
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Asp Leu Ala Ala Tyr Thr Ala Leu Lys Phe Tyr Leu Gln Gly Pro Glu  
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Pro Glu Pro Gly Gln Gly Thr Glu Asp Arg Phe Val Met Tyr Met Gly  
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740 745 750  
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785 790 795 800  
Ile Gln Glu Thr Lys Gly Asp Thr Val Ala Pro Gly Ala Glu Gly Leu  
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 1285 1290 1295

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 1490 1495 1500  
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 1570 1575 1580  
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<210> 10
<211> 400
<212> PRT
<213> Homo sapiens

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      20              25              30

Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala
      35              40              45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys
      50              55              60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Val Arg Ile Lys Ala
      65              70              75              80

Glu Gly Lys Glu Ile Glu Asn Thr Glu Ala Val His Gln Gln Phe Gln
      85              90              95

Lys Phe Leu Thr Glu Ile Ser Lys Leu Thr Asn Asp Tyr Glu Leu Asn
      100             105             110

Ile Thr Asn Arg Leu Phe Gly Glu Lys Thr Tyr Leu Phe Leu Gln Lys
      115             120             125

Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr His Ala Ser Leu Glu Pro Val
      130             135             140

Asp Phe Val Asn Ala Ala Asp Glu Ser Arg Lys Lys Ile Asn Ser Trp
      145             150             155             160

Val Glu Ser Lys Thr Asn Glu Lys Ile Lys Asp Leu Phe Pro Asp Gly
      165             170             175

Ser Ile Ser Ser Ser Thr Lys Leu Val Leu Val Asn Met Val Tyr Phe
      180             185             190

Lys Gly Gln Trp Asp Arg Glu Phe Lys Lys Glu Asn Thr Lys Glu Glu
      195             200             205

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Lys Phe Trp Met Asn Lys Ser Thr Ser Lys Ser Val Gln Met Met Thr  
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 245 250 255  
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 Pro Glu Lys Leu Val Glu Trp Thr Ser Pro Gly His Met Glu Glu Arg  
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 Glu Ala Ala Ala Ala Thr Gly Ile Gly Phe Thr Val Thr Ser Ala Pro  
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<210> 11  
 <211> 1238  
 <212> DNA  
 <213> Homo sapiens

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<210> 12
<211> 400
<212> PRT
<213> Homo sapiens

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Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val
      20                      25                      30

Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala
      35                      40                      45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys
      50                      55                      60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Val Arg Ile Lys Ala
      65                      70                      75                      80

Glu Gly Lys Glu Ile Glu Asn Thr Glu Ala Val His Gln Gln Phe Gln
      85                      90                      95

Lys Phe Leu Thr Glu Ile Ser Lys Leu Thr Asn Asp Tyr Glu Leu Asn
      100                      105                      110

Ile Thr Asn Arg Leu Phe Gly Glu Lys Thr Tyr Leu Phe Leu Gln Lys
      115                      120                      125

Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr His Ala Ser Leu Glu Pro Val
      130                      135                      140

Asp Phe Val Asn Ala Ala Asp Glu Ser Arg Lys Lys Ile Asn Ser Trp
      145                      150                      155                      160

Val Glu Ser Lys Thr Asn Glu Lys Ile Lys Asp Leu Phe Pro Asp Gly
      165                      170                      175

Ser Ile Ser Ser Ser Thr Lys Leu Val Leu Val Asn Met Val Tyr Phe
      180                      185                      190

Lys Gly Gln Trp Asp Arg Gly Phe Lys Lys Glu Asn Thr Lys Glu Glu
      195                      200                      205

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<210> 14
<211> 400
<212> PRT
<213> Homo sapiens

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Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val
  20            25            30

Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala
  35            40            45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys
  50            55            60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Val Arg Ile Lys Ala
  65            70            75            80

Glu Gly Lys Glu Ile Glu Asn Thr Glu Ala Val His Gln Gln Phe Gln
  85            90            95

Lys Phe Leu Thr Glu Ile Ser Lys Leu Thr Asn Asp Tyr Glu Leu Asn
 100           105           110

Ile Thr Asn Arg Leu Phe Gly Glu Lys Thr Tyr Leu Phe Leu Gln Lys
 115           120           125

Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr His Ala Ser Leu Glu Pro Val
 130           135           140

Asp Phe Val Asn Ala Ala Asp Glu Ser Arg Lys Lys Ile Asn Ser Trp
 145           150           155           160

Val Glu Ser Lys Thr Asn Glu Lys Ile Lys Asp Leu Phe Pro Asp Gly
 165           170           175

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Ser Ile Ser Ser Ser Thr Lys Leu Val Leu Val Asn Met Val Tyr Phe  
 180 185 190  
 Lys Gly Gln Trp Asp Arg Glu Phe Lys Lys Glu Asn Thr Lys Glu Glu  
 195 200 205  
 Lys Phe Trp Met Asn Lys Ser Thr Ser Lys Ser Val Gln Met Met Thr  
 210 215 220  
 Gln Ser His Ser Phe Ser Phe Thr Phe Leu Glu Asp Leu Gln Ala Lys  
 225 230 235 240  
 Ile Leu Gly Ile Pro Tyr Lys Asn Asn Asp Leu Ser Met Phe Val Leu  
 245 250 255  
 Leu Pro Asn Asp Ile Asp Gly Leu Glu Lys Ile Ile Asp Lys Ile Ser  
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 Pro Glu Lys Leu Val Glu Trp Thr Ser Pro Gly His Met Glu Glu Arg  
 275 280 285  
 Lys Val Asn Leu His Leu Pro Arg Phe Glu Val Glu Asp Ser Tyr Asp  
 290 295 300  
 Leu Glu Ala Val Leu Ala Ala Met Gly Met Gly Asp Ala Phe Ser Glu  
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 His Lys Ala Asp Tyr Ser Gly Met Ser Ser Gly Ser Gly Leu Tyr Ala  
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<210> 15  
 <211> 818  
 <212> DNA  
 <213> Homo sapiens

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<210> 16  
 <211> 175  
 <212> PRT  
 <213> Homo sapiens

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<400> 16
Met Asp Ser Leu Gly Ala Val Ser Thr Arg Leu Gly Phe Asp Leu Phe
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Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val
      20              25              30

Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala
      35              40              45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys
      50              55              60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Val Arg Ile Lys Ala
      65              70              75              80

Glu Gly Lys Glu Ile Glu Asn Thr Glu Ala Val His Gln Gln Phe Gln
      85              90              95

Lys Phe Leu Thr Glu Ile Ser Lys Leu Thr Asn Asp Tyr Glu Leu Asn
      100             105             110

Ile Thr Asn Arg Leu Phe Gly Glu Lys Thr Tyr Leu Phe Leu Gln Lys
      115             120             125

Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr His Ala Ser Leu Glu Pro Val
      130             135             140

Asp Phe Val Asn Ala Ala Asp Glu Ser Arg Lys Lys Ile Asn Ser Trp
      145             150             155             160

Val Glu Ser Lys Thr Asn Asp Val Glu Thr Glu Ala Gln Arg Val
      165             170             175

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<210> 17  
 <211> 5316  
 <212> DNA  
 <213> Homo sapiens

<400> 17



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Thr Tyr Val Pro Ile Leu Pro Ala Gln Leu Leu Glu Val Leu Ser Thr
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Pro Thr Pro Phe Ile Ile Gly Val Asn Ala Ala Phe Gln Ala Glu Thr
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Gln Glu Leu Leu Asp Val Ile Val Ala Asp Leu Asp Gly Gly Thr Val
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agggggccgt	gggtccacc	ctgagcctca	gcctggacag	cgaccagagt	agtggctcaa	5040
ccacatccgg	ctcccgctcag	gctgcccgc	gcagcaccag	cacctgtac	agccagttcc	5100

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agacagcaga gaggagaac aggtcctacg agggcactct gtacaagaag ggggccttca 5160
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acgaccaccg tgtggacaca gagggaagg gtgtcatcga cttggcggag gtggaggctg 5280
tggcaccttg cagccact atgggtgcc ctaagaccgt ggacgagaag gccttctttg 5340
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<210> 20
<211> 1681
<212> PRT
<213> Homo sapiens

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      20             25             30

Gly Ile Thr Asn Val Leu Ser Leu Phe Cys Ala Ala Leu Thr Glu His
      35             40             45

Lys Val Leu Phe Leu Ser Arg Ser Tyr Gln Arg Leu Ala Asp Ala Cys
      50             55             60

Arg Gly Leu Leu Ala Leu Leu Phe Pro Leu Arg Tyr Ser Phe Thr Tyr
      65             70             75             80

Val Pro Ile Leu Pro Ala Gln Leu Leu Glu Val Leu Ser Thr Pro Thr
      85             90             95

Pro Phe Ile Ile Gly Val Asn Ala Ala Phe Gln Ala Glu Thr Gln Glu
      100            105            110

Leu Leu Asp Val Ile Val Ala Asp Leu Asp Gly Gly Thr Val Thr Ile
      115            120            125

Pro Glu Cys Val His Ile Pro Pro Leu Pro Glu Pro Leu Gln Ser Gln
      130            135            140

Thr His Ser Val Leu Ser Met Val Leu Asp Pro Glu Leu Glu Leu Ala
      145            150            155            160

Asp Leu Ala Phe Pro Pro Pro Thr Thr Ser Thr Ser Ser Leu Lys Met
      165            170            175

Gln Asp Lys Glu Leu Arg Ala Val Phe Leu Arg Leu Phe Ala Gln Leu
      180            185            190

Leu Gln Gly Tyr Arg Trp Cys Leu His Val Val Arg Ile His Pro Glu
      195            200            205

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Pro Val Ile Arg Phe His Lys Ala Ala Phe Leu Gly Gln Arg Gly Leu  
 210 215 220  
 Val Glu Asp Asp Phe Leu Met Lys Val Leu Glu Gly Met Ala Phe Ala  
 225 230 235 240  
 Gly Phe Val Ser Glu Arg Gly Val Pro Tyr Arg Pro Thr Asp Leu Phe  
 245 250 255  
 Asp Glu Leu Val Ala His Glu Val Ala Arg Met Arg Ala Asp Glu Asn  
 260 265 270  
 His Pro Gln Arg Val Leu Arg His Val Gln Glu Leu Ala Glu Gln Leu  
 275 280 285  
 Tyr Lys Asn Glu Asn Pro Tyr Pro Ala Val Ala Met His Lys Val Gln  
 290 295 300  
 Arg Pro Gly Glu Ser Ser His Leu Arg Arg Val Pro Arg Pro Phe Pro  
 305 310 315 320  
 Arg Leu Asp Glu Gly Thr Val Gln Trp Ile Val Asp Gln Ala Ala Ala  
 325 330 335  
 Lys Met Gln Gly Ala Pro Pro Ala Val Lys Ala Glu Arg Arg Thr Thr  
 340 345 350  
 Val Pro Ser Gly Pro Pro Met Thr Ala Ile Leu Glu Arg Cys Ser Gly  
 355 360 365  
 Leu His Val Asn Ser Ala Arg Arg Leu Glu Val Val Arg Asn Cys Ile  
 370 375 380  
 Ser Tyr Val Phe Glu Gly Lys Met Leu Glu Ala Lys Lys Leu Leu Pro  
 385 390 395 400  
 Ala Val Leu Arg Ala Leu Lys Gly Arg Ala Ala Arg Arg Cys Leu Ala  
 405 410 415  
 Gln Glu Leu His Leu His Val Gln Gln Asn Arg Ala Val Leu Asp His  
 420 425 430  
 Gln Gln Phe Asp Phe Val Val Arg Met Met Asn Cys Cys Leu Gln Asp  
 435 440 445  
 Cys Thr Ser Leu Asp Glu His Gly Ile Ala Ala Ala Leu Leu Pro Leu  
 450 455 460  
 Val Thr Ala Phe Cys Arg Lys Leu Ser Pro Gly Val Thr Gln Phe Ala  
 465 470 475 480  
 Tyr Ser Cys Val Gln Glu His Val Val Trp Ser Thr Pro Gln Phe Trp  
 485 490 495  
 Glu Ala Met Phe Tyr Gly Asp Val Gln Thr His Ile Arg Ala Leu Tyr  
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Leu Glu Pro Thr Glu Asp Leu Ala Pro Ala Gln Glu Val Gly Glu Ala  
 515 520 525  
 Pro Ser Gln Glu Asp Glu Arg Ser Ala Leu Asp Val Ala Ser Glu Gln  
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 Arg Arg Leu Trp Pro Thr Leu Ser Arg Glu Lys Gln Gln Glu Leu Val  
 545 550 555 560  
 Gln Lys Glu Glu Ser Thr Val Phe Ser Gln Ala Ile His Tyr Ala Asn  
 565 570 575  
 Arg Met Ser Tyr Leu Leu Leu Pro Leu Asp Ser Ser Lys Ser Arg Leu  
 580 585 590  
 Leu Arg Glu Arg Ala Gly Leu Gly Asp Leu Glu Ser Ala Ser Asn Ser  
 595 600 605  
 Leu Val Thr Asn Ser Met Ala Gly Ser Val Ala Glu Ser Tyr Asp Thr  
 610 615 620  
 Glu Ser Gly Phe Glu Asp Ala Glu Thr Cys Asp Val Ala Gly Ala Val  
 625 630 635 640  
 Val Arg Phe Ile Asn Arg Phe Val Asp Lys Val Cys Thr Glu Ser Gly  
 645 650 655  
 Val Thr Ser Asp His Leu Lys Gly Leu His Val Met Val Pro Asp Ile  
 660 665 670  
 Val Gln Met His Ile Glu Thr Leu Glu Ala Val Gln Arg Glu Ser Arg  
 675 680 685  
 Arg Leu Pro Pro Ile Gln Lys Pro Lys Leu Leu Arg Pro Arg Leu Leu  
 690 695 700  
 Pro Gly Glu Glu Cys Val Leu Asp Gly Leu Arg Val Tyr Leu Leu Pro  
 705 710 715 720  
 Asp Gly Arg Glu Glu Gly Ala Gly Gly Ser Ala Gly Gly Pro Ala Leu  
 725 730 735  
 Leu Pro Ala Glu Gly Ala Val Phe Leu Thr Thr Tyr Arg Val Ile Phe  
 740 745 750  
 Thr Gly Met Pro Thr Asp Pro Leu Val Gly Glu Gln Val Val Val Arg  
 755 760 765  
 Ser Phe Pro Val Ala Ala Leu Thr Lys Glu Lys Arg Ile Ser Val Gln  
 770 775 780  
 Thr Pro Val Asp Gln Leu Leu Gln Asp Gly Leu Gln Leu Arg Ser Cys  
 785 790 795 800  
 Thr Phe Gln Leu Leu Lys Met Ala Phe Asp Glu Glu Val Gly Ser Asp  
 805 810 815

Ser Ala Glu Leu Phe Arg Lys Gln Leu His Lys Leu Arg Tyr Pro Pro  
 820 825 830  
 Asp Ile Arg Ala Thr Phe Ala Phe Thr Leu Gly Ser Ala His Thr Pro  
 835 840 845  
 Gly Arg Pro Pro Arg Val Thr Lys Asp Lys Gly Pro Ser Leu Arg Thr  
 850 855 860  
 Leu Ser Arg Asn Leu Val Lys Asn Ala Lys Lys Thr Ile Gly Arg Gln  
 865 870 875 880  
 His Val Thr Arg Lys Lys Tyr Asn Pro Pro Ser Trp Glu His Arg Gly  
 885 890 895  
 Gln Pro Pro Pro Glu Asp Gln Glu Asp Glu Ile Ser Val Ser Glu Glu  
 900 905 910  
 Leu Glu Pro Ser Thr Leu Thr Pro Ser Ser Ala Leu Lys Pro Ser Asp  
 915 920 925  
 Arg Met Thr Met Ser Ser Leu Val Glu Arg Ala Cys Cys Arg Asp Tyr  
 930 935 940  
 Gln Arg Leu Gly Leu Gly Thr Leu Ser Ser Ser Leu Ser Arg Ala Lys  
 945 950 955 960  
 Ser Glu Pro Phe Arg Ile Ser Pro Val Asn Arg Met Tyr Ala Ile Cys  
 965 970 975  
 Arg Ser Tyr Pro Gly Leu Leu Ile Val Pro Gln Ser Val Gln Asp Asn  
 980 985 990  
 Ala Leu Gln Arg Val Ser Arg Cys Tyr Arg Gln Asn Arg Phe Pro Val  
 995 1000 1005  
 Val Cys Trp Arg Ser Gly Arg Ser Lys Ala Val Leu Leu Arg Ser Gly  
 1010 1015 1020  
 Gly Leu His Gly Lys Gly Val Val Gly Leu Phe Lys Ala Gln Asn Ala  
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 Pro Ser Pro Gly Gln Ser Gln Ala Asp Ser Ser Ser Leu Glu Gln Glu  
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 1060 1065 1070  
 Ser Gly Arg Asn Thr Leu Ser Gly Phe Ser Ser Ala His Met Gly Ser  
 1075 1080 1085  
 His Gly Lys Trp Gly Ser Val Arg Thr Ser Gly Arg Ser Ser Gly Leu  
 1090 1095 1100  
 Gly Thr Asp Val Gly Ser Arg Leu Ala Gly Arg Asp Ala Leu Ala Pro  
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Pro Gln Ala Asn Gly Gly Pro Pro Asp Pro Gly Phe Leu Arg Pro Gln  
 1125 1130 1135  
 Arg Ala Ala Leu Tyr Ile Leu Gly Asp Lys Ala Gln Leu Lys Gly Val  
 1140 1145 1150  
 Arg Ser Asp Pro Leu Gln Gln Trp Glu Leu Val Pro Ile Glu Val Phe  
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 Glu Ala Arg Gln Val Lys Ala Ser Phe Lys Lys Leu Leu Lys Ala Cys  
 1170 1175 1180  
 Val Pro Gly Cys Pro Ala Ala Glu Pro Ser Pro Ala Ser Phe Leu Arg  
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 Val Gly Leu Glu Asp Gly Trp Asp Ile Thr Thr Gln Val Val Ser Leu  
 1235 1240 1245  
 Val Gln Leu Leu Ser Asp Pro Phe Tyr Arg Thr Leu Glu Gly Phe Arg  
 1250 1255 1260  
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 Arg Gly Ala His Thr Leu Ala Gly Gln Ser Ser Gly Phe Thr Pro Val  
 1285 1290 1295  
 Phe Leu Gln Phe Leu Asp Cys Val His Gln Val His Leu Gln Phe Pro  
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 Met Glu Phe Glu Phe Ser Gln Phe Tyr Leu Lys Phe Leu Gly Tyr His  
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 1330 1335 1340  
 Arg Ile Glu Leu Gly Leu Leu Tyr Glu Glu Lys Gly Glu Arg Arg Gly  
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 Gln Val Pro Cys Arg Ser Val Trp Glu Tyr Val Asp Arg Leu Ser Lys  
 1365 1370 1375  
 Arg Thr Pro Val Phe His Asn Tyr Met Tyr Ala Pro Glu Asp Ala Glu  
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 Val Leu Arg Pro Tyr Ser Asn Val Ser Asn Leu Lys Val Trp Asp Phe  
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 Tyr Thr Glu Glu Thr Leu Ala Glu Gly Pro Pro Tyr Asp Trp Glu Leu  
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Ala Gln Gly Pro Pro Glu Pro Pro Glu Glu Glu Arg Ser Asp Gly Gly  
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 Ala Pro Gln Ser Arg Arg Arg Val Val Trp Pro Cys Tyr Asp Ser Cys  
 1445 1450 1455  
 Pro Arg Ala Gln Pro Asp Ala Ile Ser Arg Leu Leu Glu Glu Leu Gln  
 1460 1465 1470  
 Arg Leu Glu Thr Glu Leu Gly Gln Pro Ala Glu Arg Trp Lys Asp Thr  
 1475 1480 1485  
 Trp Asp Arg Val Lys Ala Ala Gln Arg Leu Glu Gly Arg Pro Asp Gly  
 1490 1495 1500  
 Arg Gly Thr Pro Ser Ser Leu Leu Val Ser Thr Ala Pro His His Arg  
 1505 1510 1515 1520  
 Arg Ser Leu Gly Val Tyr Leu Gln Glu Gly Pro Val Gly Ser Thr Leu  
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 Ser Leu Ser Leu Asp Ser Asp Gln Ser Ser Gly Ser Thr Thr Ser Gly  
 1540 1545 1550  
 Ser Arg Gln Ala Ala Arg Arg Ser Thr Ser Thr Leu Tyr Ser Gln Phe  
 1555 1560 1565  
 Gln Thr Ala Glu Ser Glu Asn Arg Ser Tyr Glu Gly Thr Leu Tyr Lys  
 1570 1575 1580  
 Lys Gly Ala Phe Met Lys Pro Trp Lys Ala Arg Trp Phe Val Leu Asp  
 1585 1590 1595 1600  
 Lys Thr Lys His Gln Leu Arg Tyr Tyr Asp His Arg Val Asp Thr Glu  
 1605 1610 1615  
 Cys Lys Gly Val Ile Asp Leu Ala Glu Val Glu Ala Val Ala Pro Gly  
 1620 1625 1630  
 Thr Pro Thr Met Gly Ala Pro Lys Thr Val Asp Glu Lys Ala Phe Phe  
 1635 1640 1645  
 Asp Val Lys Thr Thr Arg Arg Val Tyr Asn Phe Cys Ala Gln Asp Val  
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 Pro Ser Ala Gln Gln Trp Val Asp Arg Ile Gln Ser Cys Leu Ser Asp  
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 <211> 762  
 <212> DNA  
 <213> Homo sapiens

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ctttcctgaa ggtcttcgga tcaactatcat ccagtgccat gcagtttgtc aacgtgggct 180  
acttcctcat cgccgctggg gctgtgctct tcatttttgg tttcctgggc tgctatgggtg 240  
ctccctctga gaaacaagtg tgtgctctgg tgatgttctt ttccatcctc ctcacatct 300  
tcacgctga gattgcaggt gctgtgggtg ctttggtgta caccacattg gctgaacaat 360  
tcctgacact cctgggtggg cctgctatcg aaaaagacta tggttaccag actgatttca 420  
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attttaatgc ctcacgtttc gtcaaagaga ataaagtctt cccccaccc tgttggtgcca 540  
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20 25 30  
Thr Val Asp Gly Thr Ser Phe Leu Lys Val Phe Gly Ser Leu Ser Ser  
35 40 45  
Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
50 55 60  
Ala Val Leu Phe Ile Phe Gly Phe Leu Gly Cys Tyr Gly Ala Pro Ser  
65 70 75 80  
Glu Lys Gln Val Cys Ala Leu Val Met Phe Phe Ser Ile Leu Leu Ile  
85 90 95  
Ile Phe Ile Ala Glu Ile Ala Gly Ala Val Val Ala Leu Val Tyr Thr  
100 105 110  
Thr Leu Ala Glu Gln Phe Leu Thr Leu Leu Val Val Pro Ala Ile Glu  
115 120 125  
Lys Asp Tyr Gly Tyr Gln Thr Asp Phe Thr Gln Val Trp Asn Thr Thr  
130 135 140  
Met Glu Glu Leu His Cys Cys Gly Phe Asn Asn Tyr Thr Asp Phe Asn  
145 150 155 160  
Ala Ser Arg Phe Val Lys Glu Asn Lys Val Phe Pro Pro Pro Cys Cys  
165 170 175  
Ala Asn Pro Gly Asn His Thr Val Glu Pro Cys Thr Glu Glu Lys Ala



180 185 190

Lys Ser Met Lys Val Gln Gly Cys Phe Lys Glu Ile Leu His Arg Ile  
195 200 205

Arg Asn Asn Ala Val Thr Val Gly Gly Val Ala Val Gly Val Ala Ala  
210 215 220

Leu Glu Leu Ala Ala Met Val Val Ser Met Tyr Leu Tyr Cys Asn Leu  
225 230 235 240

Lys

<210> 23  
<211> 469  
<212> DNA  
<213> Homo sapiens

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aaccagatgg tgccatctct gatggcaaaa gcttcactat aaaaaccaag agcactctga 180  
aaacaacacg gttttcttct aaacttggag agaagtatga aagaactaca ggtgatggca 240  
gaaaaaactc actatttgtc tgcaacttta caaagcgtgc attggttcaa cactgggaat 300  
gggatgagga aagaaaaacg agaagaagaa aagtgggaga caaaaaagca gggatggaat 360  
gcattatgaa caatgtcacc tgtactcaga tctgtgaaaa taaaaaaagc agaataaaaa 420  
tttccttact gctttggaga gcaattagct gagagaagga acaatttca 469

<210> 24  
<211> 145  
<212> PRT  
<213> Homo sapiens

<400> 24  
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Lys Tyr Leu Lys Glu Thr Gly Met Arg Met Ala Leu Gln Lys Ile Gly  
20 25 30

Ala Met Thr Lys Pro Asp Gly Ala Ile Ser Asp Gly Lys Ser Phe Thr  
35 40 45

Ile Lys Thr Lys Ser Thr Leu Lys Thr Thr Arg Phe Ser Ser Lys Leu  
50 55 60

Gly Glu Lys Tyr Glu Arg Thr Thr Gly Asp Gly Arg Lys Asn Ser Leu  
65 70 75 80

Phe Val Cys Asn Phe Thr Lys Arg Ala Leu Val Gln His Trp Glu Trp  
85 90 95

Asp Glu Glu Arg Lys Thr Arg Arg Arg Lys Val Gly Asp Lys Lys Ala  
100 105 110

Gly Met Glu Cys Ile Met Asn Asn Val Thr Cys Thr Gln Ile Cys Glu  
 115 120 125

Asn Lys Lys Ser Arg Ile Lys Ile Ser Leu Leu Leu Trp Arg Ala Ile  
 130 135 140

Ser  
 145

<210> 25  
 <211> 816  
 <212> DNA  
 <213> Homo sapiens

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 ctccaggtcc aaggtgaatg cccgacgtcc agtgttatta ggtataaagg tgtcctggga 180  
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 gggcttcagc ggcaaatacag ctccgcctct ctacaggtatcg gcctctacga cacggtccag 300  
 gagttcctca ccgcagggaa agaaacagca cctagtttag gaagcaagat ttagctggt 360  
 ctaacgactg gaggagtggc agtattcatt gggcaaccca cagaggtcgt gaaagtcaga 420  
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 tcaaagtcaa ggcagactat ggactgtgac acataa 816

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 <211> 271  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
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 Pro Leu Asp Thr Ala Lys Val Arg Leu Gln Val Gln Gly Glu Cys Pro  
 35 40 45  
 Thr Ser Ser Val Ile Arg Tyr Lys Gly Val Leu Gly Thr Ile Thr Ala  
 50 55 60  
 Val Val Lys Thr Glu Gly Arg Met Lys Leu Tyr Ser Gly Leu Pro Ala  
 65 70 75 80  
 Gly Leu Gln Arg Gln Ile Ser Ser Ala Ser Leu Arg Ile Gly Leu Tyr  
 85 90 95

Asp Thr Val Gln Glu Phe Leu Thr Ala Gly Lys Glu Thr Ala Pro Ser  
 100 105 110  
 Leu Gly Ser Lys Ile Leu Ala Gly Leu Thr Thr Gly Gly Val Ala Val  
 115 120 125  
 Phe Ile Gly Gln Pro Thr Glu Val Val Lys Val Arg Leu Gln Ala Gln  
 130 135 140  
 Ser His Leu His Gly Ile Lys Pro Arg Tyr Thr Gly Thr Tyr Asn Ala  
 145 150 155 160  
 Tyr Arg Ile Ile Ala Thr Thr Glu Gly Leu Thr Gly Leu Trp Lys Gly  
 165 170 175  
 Thr Thr Pro Asn Leu Met Arg Ser Val Ile Ile Asn Cys Thr Glu Leu  
 180 185 190  
 Val Thr Tyr Asp Leu Met Lys Glu Ala Phe Val Lys Asn Asn Ile Leu  
 195 200 205  
 Ala Gly Gln Tyr Lys Ser Val Pro Asn Cys Ala Met Lys Val Phe Thr  
 210 215 220  
 Asn Glu Gly Pro Thr Ala Phe Phe Lys Gly Leu Val Pro Ser Phe Leu  
 225 230 235 240  
 Arg Leu Gly Ser Trp Asn Val Ile Met Phe Val Cys Phe Glu Gln Leu  
 245 250 255  
 Lys Arg Glu Leu Ser Lys Ser Arg Gln Thr Met Asp Cys Ala Thr  
 260 265 270

<210> 27  
 <211> 1859  
 <212> DNA  
 <213> Homo sapiens

<400> 27  
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 gtggatgcc accgtgaatg ccagcgtggg gaccggcgcc tgtgcggggc ccgcctccct 720  
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 ctacagcctg cagcgcttcc ggcccgagga agagctgccc gcggcctccg tgggtgcctg 960  
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 cgggtgccac gtcttcacg cactgctcat cgccaggac cagctggcca tcctaggcag 1560  
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<210> 28  
 <211> 553  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
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 Ser Gly Ala Val Ala Arg Asn Leu Cys Leu Tyr Ser Val Leu Val Ile  
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 Thr Glu Gly Arg Gln Pro Pro Lys Gly Lys Cys Pro Leu Arg Cys Ser  
 35 40 45  
 Cys Ser Lys Asp Ser Ala Leu Cys Glu Gly Ser Pro Asp Leu Pro Val  
 50 55 60  
 Ser Phe Ser Pro Thr Leu Leu Ser Leu Ser Leu Val Arg Thr Gly Val  
 65 70 75 80  
 Thr Gln Leu Lys Ala Gly Ser Phe Leu Arg Ile Pro Ser Leu His Leu  
 85 90 95  
 Leu Leu Phe Thr Ser Asn Ser Phe Ser Val Ile Glu Asp Asp Ala Phe  
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 Ala Gly Leu Ser His Leu Gln Tyr Leu Phe Ile Glu Asp Asn Glu Ile  
 115 120 125  
 Gly Ser Ile Ser Lys Asn Ala Leu Arg Gly Leu Arg Ser Leu Thr His  
 130 135 140  
 Leu Ser Leu Ala Asn Asn His Leu Glu Thr Leu Pro Arg Phe Leu Phe  
 145 150 155 160  
 Arg Gly Leu Asp Thr Leu Thr His Val Asp Leu Arg Gly Asn Pro Phe  
 165 170 175  
 Gln Cys Asp Cys Arg Val Leu Trp Leu Leu Gln Trp Met Pro Thr Val  
 180 185 190

Asn Ala Ser Val Gly Thr Gly Ala Cys Ala Gly Pro Ala Ser Leu Ser  
 195 200 205  
 His Met Gln Leu His His Leu Asp Pro Lys Thr Phe Lys Cys Arg Ala  
 210 215 220  
 Ile Glu Leu Ser Trp Phe Gln Thr Val Gly Glu Ser Ala Leu Ser Val  
 225 230 235 240  
 Glu Pro Phe Ser Tyr Gln Gly Glu Pro His Ile Val Leu Ala Gln Pro  
 245 250 255  
 Phe Ala Gly Arg Cys Leu Ile Leu Ser Trp Asp Tyr Ser Leu Gln Arg  
 260 265 270  
 Phe Arg Pro Glu Glu Glu Leu Pro Ala Ala Ser Val Val Ser Cys Lys  
 275 280 285  
 Pro Leu Val Leu Gly Pro Ser Leu Phe Val Leu Ala Ala Arg Leu Trp  
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 Gly Gly Ser Gln Leu Trp Ala Arg Pro Ser Pro Gly Leu Arg Leu Ala  
 305 310 315 320  
 Pro Thr Gln Thr Leu Ala Pro Arg Arg Leu Leu Arg Pro Asn Asp Ala  
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 Glu Leu Leu Trp Leu Glu Gly Gln Pro Cys Phe Val Val Ala Asp Ala  
 340 345 350  
 Ser Lys Ala Gly Ser Thr Thr Leu Leu Cys Arg Asp Gly Pro Gly Phe  
 355 360 365  
 Tyr Pro His Gln Ser Leu His Ala Trp His Arg Asp Thr Asp Ala Glu  
 370 375 380  
 Ala Leu Glu Leu Asp Gly Arg Pro His Leu Leu Leu Ala Ser Ala Ser  
 385 390 395 400  
 Gln Arg Pro Val Leu Phe His Trp Thr Gly Gly Arg Phe Glu Arg Arg  
 405 410 415  
 Thr Asp Ile Pro Arg Ala Glu Asp Val Tyr Ala Thr Arg His Phe Gln  
 420 425 430  
 Ala Gly Gly Asp Val Phe Leu Cys Leu Thr Arg Tyr Ile Gly Asp Ser  
 435 440 445  
 Met Val Met Arg Trp Asp Gly Ser Met Phe Arg Leu Leu Gln Gln Leu  
 450 455 460  
 Pro Ser Arg Gly Ala His Val Phe Gln Pro Leu Leu Ile Ala Arg Asp  
 465 470 475 480  
 Gln Leu Ala Ile Leu Gly Ser Asp Phe Ala Phe Ser Gln Val Leu Arg  
 485 490 495

Leu Glu Pro Asp Lys Gly Leu Leu Glu Pro Leu Gln Glu Leu Gly Pro  
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Pro Ala Leu Val Ala Pro Arg Ala Phe Ala His Ile Thr Met Ala Gly  
515 520 525

Arg Arg Phe Leu Phe Ala Ala Cys Phe Lys Gly Pro Thr Gln Ile Tyr  
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Gln His His Glu Ile Asp Leu Ser Ala  
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<210> 29  
<211> 1482  
<212> DNA  
<213> Homo sapiens

<400> 29  
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tcctgtctta aagacagcgc cctgtgtgag ggctccccgg acctgccgt cagcttctct 180  
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cttacacacc tgagcctggc caataacatc ctggagacc tccccagatt cctgttccga 480  
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<210> 30  
<211> 493  
<212> PRT  
<213> Homo sapiens

<400> 30  
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Leu Cys Leu Phe Ser Ser Leu Phe Leu Leu Glu Ile Gly Arg Pro Pro

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Cys	Glu	Gly	Ser	Pro	Asp	Leu	Pro	Val	Ser	Phe	Ser	Pro	Thr	Leu	Leu
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Ser	Leu	Thr	Ala	His	Ile	Pro	Ser	Ser	Leu	Val	Arg	Thr	Gly	Val	Thr
	65					70					75				80
Gln	Leu	Lys	Ala	Gly	Ser	Phe	Leu	Arg	Ile	Pro	Ser	Leu	His	Leu	Leu
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Leu	Phe	Thr	Ser	Asn	Ser	Phe	Ser	Val	Ile	Glu	Asp	Asp	Ala	Phe	Ala
			100					105					110		
Gly	Leu	Ser	His	Leu	Gln	Tyr	Leu	Phe	Ile	Glu	Asp	Asn	Glu	Ile	Gly
		115					120					125			
Ser	Ile	Ser	Lys	Asn	Ala	Leu	Arg	Gly	Leu	Arg	Ser	Leu	Thr	His	Leu
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Ser	Leu	Ala	Asn	Asn	His	Leu	Glu	Thr	Leu	Pro	Arg	Phe	Leu	Phe	Arg
	145					150					155				160
Gly	Leu	Asp	Thr	Leu	Thr	His	Val	Asp	Leu	Arg	Gly	Asn	Pro	Phe	Gln
			165						170					175	
Cys	Asp	Cys	Arg	Val	Leu	Trp	Leu	Leu	Gln	Trp	Met	Pro	Thr	Val	Asn
			180					185					190		
Ala	Ser	Val	Gly	Thr	Gly	Ala	Cys	Ala	Gly	Pro	Ala	Ser	Leu	Ser	His
		195					200					205			
Met	Gln	Leu	His	His	Leu	Asp	Pro	Lys	Thr	Phe	Lys	Cys	Thr	Ala	Ala
	210					215					220				
Ser	Val	Val	Ser	Cys	Lys	Pro	Leu	Val	Leu	Gly	Pro	Ser	Leu	Phe	Val
	225					230					235				240
Leu	Ala	Ala	Arg	Leu	Trp	Gly	Gly	Ser	Gln	Leu	Trp	Ala	Arg	Pro	Ser
			245						250					255	
Pro	Gly	Leu	Arg	Leu	Ala	Pro	Thr	Gln	Thr	Leu	Ala	Pro	Arg	Arg	Leu
			260					265					270		
Leu	Arg	Pro	Asn	Asp	Ala	Glu	Leu	Leu	Trp	Leu	Glu	Gly	Gln	Pro	Cys
		275					280					285			
Phe	Val	Val	Ala	Asp	Ala	Ser	Lys	Ala	Gly	Ser	Thr	Thr	Cys	Ser	Ala
	290					295					300				
Ser	Gly	Pro	Arg	Lys	Ser	Cys	Pro	Ser	Leu	His	Ala	Trp	His	Arg	Asp
	305					310					315				320
Thr	Asp	Ala	Glu	Ala	Leu	Glu	Leu	Asp	Gly	Arg	Pro	His	Leu	Leu	Leu

	325		330		335
Ala Ser Ala Ser Gln Arg Pro Val Leu Phe His Trp Thr Gly Gly Arg					
	340		345		350
Phe Glu Arg Arg Thr Asp Ile Pro Glu Ala Glu Asp Val Tyr Ala Thr					
	355		360		365
Arg His Phe Gln Ala Gly Gly Asp Val Phe Leu Cys Leu Thr Arg Tyr					
	370		375		380
Ile Gly Asp Ser Met Val Met Arg Trp Asp Gly Ser Met Phe Arg Leu					
	385		390		400
Leu Gln Gln Leu Pro Ser Arg Gly Ala His Val Phe Gln Pro Leu Leu					
	405		410		415
Ile Ala Arg Asp Gln Leu Ala Ile Leu Gly Ser Asp Phe Ala Phe Ser					
	420		425		430
Gln Val Leu Arg Leu Glu Pro Asp Lys Gly Leu Leu Glu Pro Leu Gln					
	435		440		445
Glu Leu Gly Pro Leu Ala Leu Val Ala Pro Arg Ala Phe Ala His Ile					
	450		455		460
Thr Met Ala Gly Arg Arg Phe Leu Phe Ala Ala Cys Phe Lys Gly Pro					
	465		470		480
Thr Gln Ile Tyr Gln His His Glu Ile Asp Leu Ser Ala					
	485		490		

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 <211> 430  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
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 ggagaaaagt ttcagaagca aacggatcgt gcaagtggag caataacttc atccgcagct 180  
 ccacagaagt gatgcgagc gtccacaggg ccccagctg caagtttgta cagaatcctg 240  
 gcataagctg ctgtgagagc ctagaactgg aaaatacagt gtgccagttc actacaggca 300  
 aacaattccc caggtgcca taccatagtg ttacctcatt agagaagata ttgacagtgc 360  
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 gctttaggac 430

<210> 32  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

<400> 32  
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 Val Trp Arg Lys Val Ser Glu Ala Asn Gly Ser Cys Lys Trp Ser Asn  
                   35                  40                  45  
 Asn Phe Ile Arg Ser Ser Thr Glu Val Met Arg Arg Val His Arg Ala  
                   50                  55                  60  
 Pro Ser Cys Lys Phe Val Gln Asn Pro Gly Ile Ser Cys Cys Glu Ser  
                   65                  70                  75                  80  
 Leu Glu Leu Glu Asn Thr Val Cys Gln Phe Thr Thr Gly Lys Gln Phe  
                   85                  90                  95  
 Pro Arg Cys Gln Tyr His Ser Val Thr Ser Leu Glu Lys Ile Leu Thr  
                   100                  105                  110  
 Val Leu Thr Gly His Ser Leu Met Ser Trp Leu Val Cys Gly Ser Lys  
                   115                  120                  125

Leu

<210> 33  
 <211> 1860  
 <212> DNA  
 <213> Homo sapiens

<400> 33  
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 ctgatttgcc tcttggaact cagcctgcct ttcctcacca catgcctctc agtgatcaac 180  
 ttggtgcggg ccttggaac tgtgctgcag aacgtggagg gtctctgtca atctggttcc 240  
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 gggattaatc ggacaaggca catagccctg gaaggcctgg ctctctgtca cagcctgaag 540  
 agctcgggtc ttcggagcaa tggcctgatt gagttaccac gaggtttcct ggctgccatg 600  
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 aatgagacag ggtttgtgtc aggattgtgg gccctggatc tgtccaagaa taggctgtgt 720  
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 gagtgggatt ttgagccagg caaggatgtg gctgacaatg cagcagacag catgattggc 1800  
 ctggttgctc cgctgaagag actattgcat gtggcccaag gaagaggaaa gaaagaatga 1860

<210> 34  
 <211> 619  
 <212> PRT  
 <213> Homo sapiens

<400> 34  
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 Leu Ser Met Val Ser Arg Phe Phe Leu Ile Cys Leu Leu Asp Ser Ser  
 35 40 45  
 Leu Pro Phe Leu Thr Thr Cys Leu Ser Val Ile Asn Leu Val Arg Ala  
 50 55 60  
 Leu Glu Thr Val Leu Gln Asn Val Glu Gly Leu Cys Gln Ser Gly Ser  
 65 70 75 80  
 Thr Ser Ala Leu Pro Gln Asp Ala Phe Ser Arg Phe Pro Gly Leu Lys  
 85 90 95  
 Ala Glu Ala Gly Gln Ser Trp Ser Leu Pro Gly Pro Gln Ala Gly Asp  
 100 105 110  
 Ser Glu Ser Gly Pro His Lys Asp Glu Gly Arg Cys Thr Gly Gly Thr  
 115 120 125  
 Gly Ala Ala Glu Ile Gly Cys Pro Val Thr Leu Thr Asp Met Ala Glu  
 130 135 140  
 Leu Pro Ala Arg Met Val Ala His Phe Glu Leu Gln Glu Leu Asn Leu  
 145 150 155 160  
 Gly Ile Asn Arg Thr Arg His Ile Ala Leu Glu Gly Leu Ala Ser Cys  
 165 170 175  
 His Ser Leu Lys Ser Ser Gly Leu Arg Ser Asn Gly Leu Ile Glu Leu  
 180 185 190  
 Pro Arg Gly Phe Leu Ala Ala Met Pro Arg Leu Gln Arg Leu Asn Leu  
 195 200 205  
 Ala Asn Asn Gln Leu Arg Ser Ala Met Leu Cys Met Asn Glu Thr Gly  
 210 215 220  
 Phe Val Ser Gly Leu Trp Ala Leu Asp Leu Ser Lys Asn Arg Leu Cys

225                      230                      235                      240  
 Thr Leu Ser Pro Val Ile Phe Ser Cys Leu Pro His Leu Arg Glu Leu  
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 Gly Leu Gln Arg Leu Gln Thr Leu Asn Leu Gly Asn Asn Pro Leu Val  
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 Thr Leu Gly Glu Gly Trp Leu Ala Pro Leu Pro Thr Leu Thr Thr Gln  
                                  290                      295                      300  
 Asn Leu Val Gly Thr His Met Val Leu Ser Pro Thr Trp Gly Phe Arg  
 305                      310                      315                      320  
 Gly Pro Glu Ser Leu His Ser Leu Arg Ile Gln Phe Pro Phe Gly Pro  
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 Ala Gly Val Ala Phe Ser Leu Leu Thr Arg Leu Thr Ser Leu Glu Leu  
                                  340                      345                      350  
 His Ala Val Ser Gly Met Lys His Trp Arg Leu Ser Pro Asn Val Phe  
                                  355                      360                      365  
 Pro Val Leu Gln Ile Leu Thr Leu Lys Gly Trp Gly Leu Gln Leu Glu  
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 Thr Gln Asn Ile Ser Lys Ile Phe Pro Ala Leu His Gln Leu Ser Leu  
 385                      390                      395                      400  
 Leu Gly Thr Pro Glu Ala Gln Val Leu Glu Gly Trp Gly Asn Arg His  
                                  405                      410                      415  
 Ser Pro Arg Pro Tyr Cys Ile Thr Gly Leu Pro Ser Leu Gln Glu Leu  
                                  420                      425                      430  
 Lys Leu Gln Ala Leu Gln Ser Gln Ala Cys Pro Cys Pro Val Arg Leu  
                                  435                      440                      445  
 Glu Glu Leu Val Gly Leu Glu Thr Leu Ser Ala Ala Ala Phe Gly Gly  
                                  450                      455                      460  
 Leu Gly Ser Leu Gln Val Leu Val Leu Asp Arg Glu Lys Asp Phe Met  
 465                      470                      475                      480  
 Leu Asp Asp Ser Leu Gln Glu His Ser Pro Arg Met Pro Gln Tyr Ile  
                                  485                      490                      495  
 Tyr Ile Leu Thr Ser Ser Leu Ala Cys Gln Cys Ala Asn Ala Cys Leu  
                                  500                      505                      510  
 Cys Pro Ala Ala Ser Ala Gly Leu Leu Ala Leu Pro Lys Gly Ser Gln  
                                  515                      520                      525  
 Glu Phe Leu Asp Pro Leu Thr Gln Gly Leu Ala Gln Gly Leu Val Pro

530                                      535                                      540  
 Glu Ser Glu Glu Ser Glu Gly Gln Asp Gln Gly Trp Met Val Gln Glu  
 545                                      550                                      555                                      560  
 Leu Leu Pro Ala Leu Glu Asp Cys Pro Pro Ala Gly Arg Gly Leu Pro  
 565                                      570                                      575  
 Leu Cys Leu His Glu Trp Asp Phe Glu Pro Gly Lys Asp Val Ala Asp  
 580                                      585                                      590  
 Asn Ala Ala Asp Ser Met Ile Gly Leu Val Ala Pro Leu Lys Arg Leu  
 595                                      600                                      605  
 Leu His Val Ala Gln Gly Arg Gly Lys Lys Glu  
 610                                      615

<210> 35  
 <211> 4660  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
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 <212> PRT  
 <213> Homo sapiens

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His	Phe	Arg	Gln	Gly	Ile	Pro	Phe	Phe	Ala	Gln	Val	Arg	Leu	Val	Asp				
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Gly	Lys	Gly	Val	Pro	Ile	Pro	Asn	Lys	Leu	Phe	Phe	Ile	Ser	Val	Asn				
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Arg	Val	Ser	Tyr	Lys	Glu	Ser	Asn	Asn	Cys	Ser	Asp	Asn	Trp	Trp	Leu				
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Asp	Glu	Phe	His	Thr	Gln	Thr	Ser	His	Thr	Ala	Lys	His	Phe	Phe	Ser				
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Val	Ala	Pro	Ile	Ala	Arg	Met	Phe	Ile	Phe	Ala	Ile	Leu	Pro	Asp	Gly				
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Glu	Val	Val	Gly	Asp	Ser	Glu	Lys	Phe	Glu	Ile	Glu	Asn	Cys	Leu	Ala				
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Arg	Ala	Val	Asp	Gln	Ser	Val	Leu	Leu	Met	Lys	Pro	Glu	Ala	Glu	Leu				
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Asn Glu Ala Asp Ile Tyr Ser Phe Leu Lys Gly Met Gly Leu Lys Val						
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Phe Thr Asn Ser Lys Ile Arg Lys Pro Lys Ser Cys Ser Val Ile Pro						
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Ser Val Ser Ala Gly Ala Val Gly Gln Gly Tyr Tyr Gly Ala Gly Leu						
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Gly Val Val Glu Arg Pro Tyr Val Pro Gln Leu Gly Thr Tyr Asn Val						
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Ile Pro Leu Asn Asn Glu Gln Ser Ser Gly Pro Val Pro Glu Thr Val						
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Arg Ser Tyr Phe Pro Glu Thr Trp Ile Trp Glu Leu Val Ala Val Ser						
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Ser Ser Gly Val Ala Glu Val Gly Val Thr Val Pro Asp Thr Ile Thr						
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Ile Ser Ser Thr Ala Ser Leu Arg Ala Phe Gln Pro Phe Phe Val Glu						
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Leu Thr Met Pro Tyr Ser Val Ile Arg Gly Glu Val Phe Thr Leu Lys						
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Ala Thr Val Leu Asn Tyr Leu Pro Lys Cys Ile Arg Val Val Val Gln						
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Leu Glu Val Ser Ser Ala Phe Leu Ala Val Pro Thr Glu Lys Asn Glu						
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Glu Ser His Cys Val Cys Arg Asn Gly Arg Lys Thr Val Ser Trp Val						
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Val Thr Pro Lys Ser Leu Gly Asn Val Asn Phe Ser Val Ser Ala Glu						
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Ala Met Gln Ser Leu Glu Leu Cys Gly Asn Glu Val Val Glu Val Pro						
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Glu Ile Lys Arg Lys Asp Thr Val Ile Lys Thr Leu Leu Val Glu Pro						
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Glu Gly Ile Ala Lys Glu Glu Thr Phe Asn Thr Leu Pro Cys Ala Ser						
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Gly Ala Asn Val Ser Glu Gln Leu Ser Leu Lys Leu Pro Ser Asn Val						



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Gly Cys Gly Glu Gln Asn Met Val Leu Phe Ala Pro Asn Ile Tyr Val 980 985 990		
Leu Asn Tyr Leu Asn Glu Thr Gln Gln Leu Thr Gln Glu Ile Lys Ala 995 1000 1005		
Lys Ala Val Gly Tyr Leu Ile Thr Gly Tyr Gln Arg Gln Leu Asn Tyr 1010 1015 1020		
Lys His Gln Asp Gly Ser Tyr Ser Thr Phe Gly Glu Arg Tyr Gly Arg 1025 1030 1035 1040		
Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe Val Leu Lys Thr Phe Ala 1045 1050 1055		
Gln Ala Arg Ser Tyr Ile Phe Ile Asp Glu Ala His Ile Thr Gln Ser 1060 1065 1070		
Leu Thr Trp Leu Ser Gln Met Gln Lys Asp Asn Gly Cys Phe Arg Ser 1075 1080 1085		
Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val Glu Asp Glu 1090 1095 1100		
Ala Thr Leu Ser Ala Tyr Val Thr Ile Ala Leu Leu Glu Ile Pro Leu 1105 1110 1115 1120		
Pro Val Thr Asn Pro Ile Val Arg Asn Ala Leu Phe Cys Leu Glu Ser 1125 1130 1135		
Ala Trp Asn Val Ala Lys Glu Gly Thr His Gly Ser His Val Tyr Thr 1140 1145 1150		
Lys Ala Leu Leu Ala Tyr Ala Phe Ser Leu Leu Gly Lys Gln Asn Gln 1155 1160 1165		
Asn Arg Glu Ile Leu Asn Ser Leu Asp Lys Glu Ala Val Lys Asp Asn 1170 1175 1180		
Leu Val His Trp Glu Arg Pro Gln Arg Pro Lys Ala Pro Val Gly His 1185 1190 1195 1200		
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Val Leu Leu Ala Tyr Leu Thr Ala Gln Pro Ala Pro Thr Ser Gly Asp 1220 1225 1230		
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Ala Gln Val Thr Val Gln Asp Ser Gln Thr Phe Ser Thr Asn Phe Gln		
	1285	1290 1295
Val Asp Asn Asn Asn Leu Leu Leu Leu Gln Gln Ile Ser Leu Pro Glu		
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Leu Pro Gly Glu Tyr Val Ile Thr Val Thr Gly Glu Arg Cys Val Tyr		
	1315	1320 1325
Leu Gln Thr Ser Met Lys Tyr Asn Ile Leu Pro Glu Lys Glu Asp Ser		
	1330	1335 1340
Pro Phe Ala Leu Lys Val Gln Thr Val Pro Gln Thr Cys Asp Gly His		
1345	1350	1355 1360
Lys Ala His Thr Ser Phe Gln Ile Ser Leu Thr Ile Ser Tyr Thr Gly		
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Asn Arg Pro Ala Ser Asn Met Val Ile Val Asp Val Lys Met Val Ser		
	1380	1385 1390
Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu Glu Arg Ser Ser		
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Ser Val Ser Arg Thr Glu Val Ser Asn Asn His Val Leu Ile Tyr Val		
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Glu Gln Val Leu Thr His Gln Thr Leu His Phe Ser Phe Phe Val Glu		
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Gln Asp Ile Gln Ile Lys Asn Leu Lys Pro Ala Thr Val Lys Ala Tyr		
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 <213> Homo sapiens

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<210> 38  
 <211> 945  
 <212> PRT  
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 35 40 45  
 Tyr Phe Leu Gln Glu Pro Gln Asp Ala Tyr Ile Val Lys Asn Lys Pro  
 50 55 60  
 Val Glu Leu Arg Cys Arg Ala Phe Pro Ala Thr Gln Ile Tyr Phe Lys  
 65 70 75 80  
 Cys Asn Gly Glu Trp Val Ser Gln Asn Asp His Val Thr Gln Glu Gly  
 85 90 95  
 Leu Asp Glu Ala Thr Gly Leu Arg Val Arg Glu Val Gln Ile Glu Val  
 100 105 110  
 Ser Arg Gln Gln Val Glu Glu Leu Phe Gly Leu Glu Asp Tyr Trp Cys  
 115 120 125  
 Gln Cys Val Ala Trp Ser Ser Ala Gly Thr Thr Lys Ser Arg Arg Ala  
 130 135 140  
 Tyr Val Arg Ile Ala Cys Leu Arg Lys Asn Phe Asp Gln Glu Pro Leu  
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 Gly Lys Glu Val Pro Leu Asp His Glu Val Leu Leu Gln Cys Arg Pro  
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 Pro Glu Gly Val Pro Val Ala Glu Val Glu Trp Leu Lys Asn Glu Asp  
 180 185 190  
 Val Ile Asp Pro Thr Gln Asp Thr Asn Phe Leu Leu Thr Ile Asp His  
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 Asn Leu Ile Ile Arg Gln Ala Arg Leu Ser Asp Thr Ala Asn Tyr Thr  
 210 215 220  
 Cys Val Ala Lys Asn Ile Val Ala Lys Arg Arg Ser Thr Thr Ala Thr  
 225 230 235 240  
 Val Ile Val Tyr Val Asn Gly Gly Trp Ser Ser Trp Ala Glu Trp Ser  
 245 250 255  
 Pro Cys Ser Asn Arg Cys Gly Arg Gly Trp Gln Lys Arg Thr Arg Thr  
 260 265 270  
 Cys Thr Asn Pro Ala Pro Leu Asn Gly Gly Ala Phe Cys Glu Gly Gln  
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 Ala Phe Gln Lys Thr Ala Cys Thr Thr Ile Cys Pro Val Asp Gly Ala  
 290 295 300  
 Trp Thr Glu Trp Ser Lys Trp Ser Ala Cys Ser Thr Glu Cys Ala His  
 305 310 315 320

Trp Arg Ser Arg Glu Cys Met Ala Pro Pro Pro Gln Asn Gly Gly Arg  
 325 330 335  
 Asp Cys Ser Gly Thr Leu Leu Asp Ser Lys Asn Cys Thr Asp Gly Leu  
 340 345 350  
 Cys Met Gln Ser Glu Ser Gln Cys Gly Pro Pro Val Pro Ala Val Leu  
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 370 375 380  
 Phe Val Val Val Ala Ile Leu Met Ala Val Gly Val Val Val Tyr Arg  
 385 390 395 400  
 Arg Asn Cys Arg Asp Phe Asp Thr Asp Ile Thr Asp Ser Ser Ala Ala  
 405 410 415  
 Leu Thr Gly Gly Phe His Pro Val Asn Phe Lys Thr Ala Arg Pro Ser  
 420 425 430  
 Asn Pro Gln Leu Leu His Pro Ser Val Pro Pro Asp Leu Thr Ala Ser  
 435 440 445  
 Ala Gly Ile Tyr Arg Gly Pro Val Tyr Ala Leu Gln Asp Ser Thr Asp  
 450 455 460  
 Lys Ile Pro Met Thr Asn Ser Pro Leu Leu Asp Pro Leu Pro Ser Leu  
 465 470 475 480  
 Lys Val Lys Val Tyr Ser Ser Ser Thr Thr Gly Ser Gly Pro Gly Leu  
 485 490 495  
 Ala Asp Gly Ala Asp Leu Leu Gly Val Leu Pro Pro Gly Thr Tyr Pro  
 500 505 510  
 Ser Asp Phe Ala Arg Asp Thr His Phe Leu His Leu Arg Ser Ala Ser  
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 Leu Gly Ser Gln Gln Leu Leu Gly Leu Pro Arg Asp Pro Gly Ser Ser  
 530 535 540  
 Val Ser Gly Thr Phe Gly Cys Leu Gly Gly Arg Leu Ser Ile Pro Gly  
 545 550 555 560  
 Thr Gly Val Ser Leu Leu Val Pro Asn Gly Ala Ile Pro Gln Gly Lys  
 565 570 575  
 Phe Tyr Glu Met Tyr Leu Leu Ile Asn Lys Ala Glu Ser Thr Leu Pro  
 580 585 590  
 Leu Ser Glu Gly Thr Gln Thr Val Leu Ser Pro Ser Val Thr Cys Gly  
 595 600 605  
 Pro Thr Gly Leu Leu Leu Cys Arg Pro Val Ile Leu Thr Met Pro His  
 610 615 620

Cys Ala Glu Val Ser Ala Arg Asp Trp Ile Phe Gln Leu Lys Thr Gln  
 625 630 635 640  
 Ala His Gln Gly His Trp Glu Glu Val Val Thr Leu Asp Glu Glu Thr  
 645 650 655  
 Leu Asn Thr Pro Cys Tyr Cys Gln Leu Glu Pro Arg Ala Cys His Ile  
 660 665 670  
 Leu Leu Asp Gln Leu Gly Thr Tyr Val Phe Thr Gly Glu Ser Tyr Ser  
 675 680 685  
 Arg Ser Ala Val Lys Arg Leu Gln Leu Ala Val Phe Ala Pro Ala Leu  
 690 695 700  
 Cys Thr Ser Leu Glu Tyr Ser Leu Arg Val Tyr Cys Leu Glu Asp Thr  
 705 710 715 720  
 Pro Val Ala Leu Lys Glu Val Leu Glu Leu Glu Arg Thr Leu Gly Gly  
 725 730 735  
 Tyr Leu Val Glu Glu Pro Lys Pro Leu Met Phe Lys Asp Ser Tyr His  
 740 745 750  
 Asn Leu Arg Leu Ser Leu His Asp Leu Pro His Ala His Trp Arg Ser  
 755 760 765  
 Lys Leu Leu Ala Lys Tyr Gln Glu Ile Pro Phe Tyr His Ile Trp Ser  
 770 775 780  
 Gly Ser Gln Lys Ala Leu His Cys Thr Phe Thr Leu Glu Arg His Ser  
 785 790 795 800  
 Leu Ala Ser Thr Glu Leu Thr Cys Lys Ile Cys Val Arg Gln Val Glu  
 805 810 815  
 Gly Glu Gly Gln Ile Phe Gln Leu His Thr Thr Leu Ala Glu Thr Pro  
 820 825 830  
 Ala Gly Ser Leu Asp Thr Leu Cys Ser Ala Pro Gly Ser Thr Val Thr  
 835 840 845  
 Thr Gln Leu Gly Pro Tyr Ala Phe Lys Ile Pro Leu Ser Ile Arg Gln  
 850 855 860  
 Lys Ile Cys Asn Ser Leu Asp Ala Pro Asn Ser Arg Gly Asn Asp Trp  
 865 870 875 880  
 Arg Met Leu Ala Gln Lys Leu Ser Met Asp Arg Tyr Leu Asn Tyr Phe  
 885 890 895  
 Ala Thr Lys Ala Ser Pro Thr Gly Val Ile Leu Asp Leu Trp Glu Ala  
 900 905 910  
 Leu Gln Gln Asp Asp Gly Asp Leu Asn Ser Leu Ala Ser Ala Leu Glu  
 915 920 925

Glu Met Gly Lys Ser Glu Met Leu Val Ala Val Ala Thr Asp Gly Asp  
 930 935 940

Cys  
 945

<210> 39  
 <211> 192  
 <212> DNA  
 <213> Homo sapiens

<400> 39  
 tttttctttt caggctttct tctagtcaag atgagtgata aaccagactt gtcggaagtg 60  
 gagaagtttg acaggtcaaa actgaagaaa actaatactg aagaaaaaaaa tactcttccc 120  
 tcaaaggaaa gtaagtcattg tgggggttcta ctggaaacaa acaatagagg aagttaatat 180  
 gtccagtaaa ta 192

<210> 40  
 <211> 48  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Met Ser Asp Lys Pro Asp Leu Ser Glu Val Glu Lys Phe Asp Arg Ser  
 1 5 10 15  
 Lys Leu Lys Lys Thr Asn Thr Glu Glu Lys Asn Thr Leu Pro Ser Lys  
 20 25 30  
 Glu Ser Lys Ser Cys Gly Val Leu Leu Glu Thr Asn Asn Arg Gly Ser  
 35 40 45

<210> 41  
 <211> 594  
 <212> DNA  
 <213> Homo sapiens

<400> 41  
 ctgggttttg gcggccgatc aggcgcagcc ggtgtacctg cgtgaccagg tcgccacgcc 60  
 gaaagcaccg ccggcatgac aactggctcg atgcttgccg tcaggattcc ttcggcattt 120  
 gccaaggacg cagcccgcgc ctacattgcc agcactgtcc cttgttcagc cgagcccacc 180  
 gagcagtcct agatgcggat cgacgggttac ctaccttcct actcgccaga tcgtggcccc 240  
 cgttcgggga ctgcggtcac gccctatcga gaggcgcagc gggagggtcga ggctcagcgt 300  
 gaacagcccg ctgccccagc cagcagccag gggctggagc aggcgcgcga gattcgccgc 360  
 gtgcaggcca gcagcagtaa caccgatagc ctgccgaccc gctcgcagga cctcggttat 420  
 caacaacctt cgttgagcaa ccgtgccgct caggcgttgg ccagctacag caccaccgcc 480  
 gcttacgcca gcgagtagca tgcgcaggaa gtgctcggcc tcgatctcta cgcgtaacct 540  
 cgtttcacgg cgtgggtcag cccctcagct ggaccgtcgc atagatcgat gagc 594

<210> 42

<211> 114  
 <212> PRT  
 <213> Homo sapiens

<400> 42  
 Met Arg Ile Asp Gly Tyr Leu Pro Ser Tyr Ser Pro Asp Arg Gly Pro  
           1                  5                  10                  15  
 Arg Ser Gly Thr Ala Val Thr Pro Tyr Arg Glu Ala Gln Arg Glu Val  
                   20                  25                  30  
 Glu Ala Gln Arg Glu Gln Pro Ala Ala Pro Ala Ser Ser Gln Gly Leu  
           35                  40                  45  
 Glu Gln Ala Pro Gln Ile Arg Arg Val Gln Ala Ser Ser Ser Asn Thr  
           50                  55                  60  
 Asp Ser Leu Pro Thr Arg Ser Gln Asp Leu Gly Tyr Gln Gln Pro Thr  
           65                  70                  75                  80  
 Leu Ser Asn Arg Ala Ala Gln Ala Leu Ala Ser Tyr Ser Thr Thr Ala  
                   85                  90                  95  
 Ala Tyr Ala Ser Glu Tyr Asp Ala Gln Glu Val Leu Gly Leu Asp Leu  
           100                  105                  110  
 Tyr Ala

<210> 43  
 <211> 1102  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
 gggcccttgt cctgggccat ggcccagaag ggggtcctgg ggccctgggca gctgggggct 60  
 gtggccaatt ctgactcata ctacttttac gggttggtgc cgtccggacc cgctaggggc 120  
 ccccggtact gcgggcgccc tgagccctcg gcccgcatcg tggggggctc aaacgcgcag 180  
 ccgggcacct ggccttggca agtgagcctg caccatggag gtggccacat ctgcgggggc 240  
 tccctcatcg cccctcctcg ggtcctctcc gctgctcact gtttcatgac gaatgggacg 300  
 ttggagcccg cggccgagtg gtcggtactg ctgggcgtgc actcccagga cgggccctg 360  
 gacggcgcgc acaccgcgc agtgggcgcc atcggtgtgc cggccaacta cagccaagtg 420  
 gagctgggcg ccgacctggc cctgctgcgc ctggcctcac ccgccagcct gggccccgcc 480  
 gtgtggcctg tctgctgcc ccgcgcctca caccgcttcg tgcacggcac cgcctgctgg 540  
 gccaccggct ggggagacgt ccaggaggca gatcctctgc ctctcccctg ggtgctacag 600  
 gaagtggagc taaggctgct gggcgaggcc acctgtcaat gtctctacag ccagcccggc 660  
 cccttcaacc tcaactctcca gatattgccg gggatgctgt gtgctggcta cccagagggc 720  
 cgcagggaca cctgccaggg tgactctggg gggccccctg tctgtgagga aggcggccgc 780  
 tggttccagg caggaatcac cagctttggg tttggtgtg gacggagaaa ccgccctgga 840  
 gttttcactg ctgtggctac ctatgaggca tggatacggg agcaggtgat gggttcagag 900  
 cctgggcctg cctttccac ccagccccag aagacccagt cagattgttt acatcaaacg 960  
 gcattcctgg attctgccag aatccttttg aggccctgt cccatatatc agtaggagtc 1020  
 tcaactggga ccaaagcct tgtcctccc tggctctctc cacactctct cctgggcctc 1080  
 tgggggttct gatgggcct cc 1102



<210> 44  
 <211> 344  
 <212> PRT  
 <213> Homo sapiens

<400> 44  
 Met Ala Gln Lys Gly Val Leu Gly Pro Gly Gln Leu Gly Ala Val Ala  
   1                  5                  10                  15  
 Asn Ser Asp Ser Tyr Ser Leu Tyr Gly Leu Val Pro Ser Gly Pro Ala  
                   20                  25                  30  
 Arg Gly Pro Pro Tyr Cys Gly Arg Pro Glu Pro Ser Ala Arg Ile Val  
                   35                  40                  45  
 Gly Gly Ser Asn Ala Gln Pro Gly Thr Trp Pro Trp Gln Val Ser Leu  
   50                  55                  60  
 His His Gly Gly Gly His Ile Cys Gly Gly Ser Leu Ile Ala Pro Ser  
   65                  70                  75                  80  
 Trp Val Leu Ser Ala Ala His Cys Phe Met Thr Asn Gly Thr Leu Glu  
                   85                  90                  95  
 Pro Ala Ala Glu Trp Ser Val Leu Leu Gly Val His Ser Gln Asp Gly  
                   100                  105                  110  
 Pro Leu Asp Gly Ala His Thr Arg Ala Val Ala Ala Ile Val Val Pro  
                   115                  120                  125  
 Ala Asn Tyr Ser Gln Val Glu Leu Gly Ala Asp Leu Ala Leu Leu Arg  
   130                  135                  140  
 Leu Ala Ser Pro Ala Ser Leu Gly Pro Ala Val Trp Pro Val Cys Leu  
   145                  150                  155                  160  
 Pro Arg Ala Ser His Arg Phe Val His Gly Thr Ala Cys Trp Ala Thr  
                   165                  170                  175  
 Gly Trp Gly Asp Val Gln Glu Ala Asp Pro Leu Pro Leu Pro Trp Val  
                   180                  185                  190  
 Leu Gln Glu Val Glu Leu Arg Leu Leu Gly Glu Ala Thr Cys Gln Cys  
   195                  200                  205  
 Leu Tyr Ser Gln Pro Gly Pro Phe Asn Leu Thr Leu Gln Ile Leu Pro  
   210                  215                  220  
 Gly Met Leu Cys Ala Gly Tyr Pro Glu Gly Arg Arg Asp Thr Cys Gln  
   225                  230                  235                  240  
 Gly Asp Ser Gly Gly Pro Leu Val Cys Glu Glu Gly Gly Arg Trp Phe  
                   245                  250                  255  
 Gln Ala Gly Ile Thr Ser Phe Gly Phe Gly Cys Gly Arg Arg Asn Arg  
                   260                  265                  270

Pro Gly Val Phe Thr Ala Val Ala Thr Tyr Glu Ala Trp Ile Arg Glu  
275 280 285

Gln Val Met Gly Ser Glu Pro Gly Pro Ala Phe Pro Thr Gln Pro Gln  
290 295 300

Lys Thr Gln Ser Asp Cys Leu His Gln Thr Ala Phe Leu Asp Ser Ala  
305 310 315 320

Arg Ile Leu Leu Arg Pro Leu Ser His Ile Ser Val Gly Val Ser Thr  
325 330 335

Gly Thr Lys Ser Leu Val Leu Pro  
340

<210> 45  
<211> 1102  
<212> DNA  
<213> Homo sapiens

<400> 45  
gggcccttgt cctggggccat ggcccagaag ggggtcctgg ggcctgggca gctgggggct 60  
gtggccaatt ctgactcata ctcactttac gggttggtgc cgtccggacc cgctaggggc 120  
cccccgact gcgggcgccc tgagccctcg gcccgcatcg tggggggctc aaacgcgcag 180  
ccgggcacct ggccttgcca agtgagcctg caccatggag gtggccacat ctgcgggggc 240  
tccctcatcg cccctcctg ggtcctctcc gctgctcact gtttcatgac gaatgggacg 300  
ttggagcccg cggccgagtg gtccgtactg ctgggcgtgc actcccagga cgggcccctg 360  
gacggcgcg acacccgcgc agtggccgcc atcgtggtgc cggccaacta cagccaagtg 420  
gagctgggcy cgcacctggc cctgctgcgc ctggcctcac ccgccagcct gggccccgcc 480  
gtgtggcctg tctgcctgcc ccgcgcctca caccgcttcg tgcacggcac cgcctgctgg 540  
gccaccggct ggggagacgt ccaggaggca gatcctctgc ctctcccctg ggtgctacag 600  
gaagtggagc taaggctgct gggcgaggcc acctgtcaat gtctctacag ccagcccggc 660  
cccttcaacc tcaactctca gatattgcca gggatgctgt gtgctggcta cccagagggc 720  
cgcagggaca cctgccaggg tgactctggg gggcccctgg tctgtgagga aggcggcrgc 780  
tggttccagg caggaatcac cagctttggg tttggctgtg gacggagaaa ccgccctgga 840  
gttttcaact ctgtggctac ctatgaggca tggatacggg agcaggtgat gggttcagag 900  
cctgggcctg cctttcccac ccagccccag aagacccagt cagattgttt acatcaaacy 960  
gcattcctgg attctgccag aatccttttg aggcccttgt cccatataat agtaggagtc 1020  
tcaactggga ccaaaagcct tgtcctcccc tggctctctc cacactctct cctgggcctc 1080  
tgggggttct gatggggcct cc 1102

<210> 46  
<211> 357  
<212> PRT  
<213> Homo sapiens

<400> 46  
Met Ala Gln Lys Gly Val Leu Gly Pro Gly Gln Leu Gly Ala Val Ala  
1 5 10 15

Asn Ser Asp Ser Tyr Ser Leu Tyr Gly Leu Val Pro Ser Gly Pro Ala  
20 25 30

Arg Gly Pro Pro Tyr Cys Gly Arg Pro Glu Pro Ser Ala Arg Ile Val  
35 40 45

Gly Gly Ser Asn Ala Gln Pro Gly Thr Trp Pro Trp Gln Val Ser Leu  
 50 55 60  
 His His Gly Gly Gly His Ile Cys Gly Gly Ser Leu Ile Ala Pro Ser  
 65 70 75 80  
 Trp Val Leu Ser Ala Ala His Cys Phe Met Thr Asn Gly Thr Leu Glu  
 85 90 95  
 Pro Ala Ala Glu Trp Ser Val Leu Leu Gly Val His Ser Gln Asp Gly  
 100 105 110  
 Pro Leu Asp Gly Ala His Thr Arg Ala Val Ala Ala Ile Val Val Pro  
 115 120 125  
 Ala Asn Tyr Ser Gln Val Glu Leu Gly Ala Asp Leu Ala Leu Leu Arg  
 130 135 140  
 Leu Ala Ser Pro Ala Ser Leu Gly Pro Ala Val Trp Pro Val Cys Leu  
 145 150 155 160  
 Pro Arg Ala Ser His Arg Phe Val His Gly Thr Ala Cys Trp Ala Thr  
 165 170 175  
 Gly Trp Gly Asp Val Gln Glu Ala Asp Pro Leu Pro Leu Pro Trp Val  
 180 185 190  
 Leu Gln Glu Val Glu Leu Arg Leu Leu Gly Glu Ala Thr Cys Gln Cys  
 195 200 205  
 Leu Tyr Ser Gln Pro Gly Pro Phe Asn Leu Thr Leu Gln Ile Leu Pro  
 210 215 220  
 Gly Met Leu Cys Ala Gly Tyr Pro Glu Gly Arg Arg Asp Thr Cys Gln  
 225 230 235 240  
 Gly Asp Ser Gly Gly Pro Leu Val Cys Glu Glu Gly Gly Arg Trp Phe  
 245 250 255  
 Gln Ala Gly Ile Thr Ser Phe Gly Phe Gly Cys Gly Arg Arg Asn Arg  
 260 265 270  
 Pro Gly Val Phe Thr Ala Val Ala Thr Tyr Glu Ala Trp Ile Arg Glu  
 275 280 285  
 Gln Val Met Gly Ser Glu Pro Gly Pro Ala Phe Pro Thr Gln Pro Gln  
 290 295 300  
 Lys Thr Gln Ser Asp Cys Leu His Gln Thr Ala Phe Leu Asp Ser Ala  
 305 310 315 320  
 Arg Ile Leu Leu Arg Pro Leu Ser His Ile Ser Val Gly Val Ser Thr  
 325 330 335  
 Gly Thr Lys Ser Leu Val Leu Pro Trp Leu Ser Pro His Ser Leu Leu  
 340 345 350

Gly Leu Trp Gly Phe  
355

<210> 47  
<211> 3635  
<212> PRT  
<213> Mus musculus

<400> 47  
Asp Leu Tyr Cys Lys Leu Val Gly Gly Pro Val Ala Gly Gly Asp Pro  
1 5 10 15  
Asn Gln Thr Ile Gln Gly Gln Tyr Cys Asp Ile Cys Thr Ala Ala Asn  
20 25 30  
Ser Asn Lys Ala His Pro Val Ser Asn Ala Ile Asp Gly Thr Glu Arg  
35 40 45  
Trp Trp Gln Ser Pro Pro Leu Ser Arg Gly Leu Glu Tyr Asn Glu Val  
50 55 60  
Asn Val Thr Leu Asp Leu Gly Gln Val Phe His Val Ala Tyr Val Leu  
65 70 75 80  
Ile Lys Phe Ala Asn Ser Pro Arg Pro Asp Leu Trp Val Leu Glu Arg  
85 90 95  
Ser Thr Asp Phe Gly His Thr Tyr Gln Pro Trp Gln Phe Phe Ala Ser  
100 105 110  
Ser Lys Arg Asp Cys Leu Glu Arg Phe Gly Pro Arg Thr Leu Glu Arg  
115 120 125  
Ile Thr Gln Asp Asp Asp Val Ile Cys Thr Thr Glu Tyr Ser Arg Ile  
130 135 140  
Val Pro Leu Glu Asn Gly Glu Ile Val Val Ser Leu Val Asn Gly Arg  
145 150 155 160  
Pro Gly Ala Leu Asn Phe Ser Tyr Ser Pro Leu Leu Arg Asp Phe Thr  
165 170 175  
Lys Ala Thr Asn Ile Arg Leu Arg Phe Leu Arg Thr Asn Thr Leu Leu  
180 185 190  
Gly His Leu Met Gly Lys Ala Leu Arg Asp Pro Thr Val Thr Arg Arg  
195 200 205  
Tyr Tyr Tyr Ser Ile Lys Asp Ile Ser Ile Gly Gly Arg Cys Val Cys  
210 215 220  
His Gly His Ala Asp Val Cys Asp Ala Lys Asp Pro Leu Asp Pro Phe  
225 230 235 240  
Arg Leu Gln Cys Ala Cys Gln His Asn Thr Cys Gly Gly Ser Cys Asp

245										250					255				
Arg	Cys	Cys	Pro	Gly	Phe	Asn	Gln	Gln	Pro	Trp	Lys	Pro	Ala	Thr	Thr				
			260					265					270						
Asp	Ser	Ala	Asn	Glu	Cys	Gln	Ser	Cys	Asn	Cys	His	Gly	His	Ala	Tyr				
		275					280					285							
Asp	Cys	Tyr	Tyr	Asp	Pro	Glu	Val	Asp	Arg	Arg	Asn	Ala	Ser	Gln	Asn				
	290					295					300								
Gln	Asp	Asn	Val	Tyr	Gln	Gly	Gly	Gly	Val	Cys	Leu	Asp	Cys	Gln	His				
305					310				315						320				
His	Thr	Thr	Gly	Ile	Asn	Cys	Glu	Arg	Cys	Leu	Pro	Gly	Phe	Phe	Arg				
				325					330					335					
Ala	Pro	Asp	Gln	Pro	Leu	Asp	Ser	Pro	His	Val	Cys	Arg	Pro	Cys	Asp				
			340					345					350						
Cys	Glu	Ser	Asp	Phe	Thr	Asp	Gly	Thr	Cys	Glu	Asp	Leu	Thr	Gly	Arg				
		355					360					365							
Cys	Tyr	Cys	Arg	Pro	Asn	Phe	Thr	Gly	Glu	Leu	Cys	Ala	Ala	Cys	Ala				
	370					375					380								
Glu	Gly	Tyr	Thr	Asp	Phe	Pro	His	Cys	Tyr	Pro	Leu	Pro	Ser	Phe	Pro				
385					390					395					400				
His	Asn	Asp	Thr	Arg	Glu	Gln	Val	Leu	Pro	Ala	Gly	Gln	Ile	Val	Asn				
				405					410					415					
Cys	Asp	Cys	Asn	Ala	Ala	Gly	Thr	Gln	Gly	Asn	Ala	Cys	Arg	Lys	Asp				
			420					425					430						
Pro	Arg	Leu	Gly	Arg	Cys	Val	Cys	Lys	Pro	Asn	Phe	Arg	Gly	Ala	His				
		435					440					445							
Cys	Glu	Leu	Cys	Ala	Pro	Gly	Phe	His	Gly	Pro	Ser	Cys	His	Pro	Cys				
	450					455					460								
Gln	Cys	Ser	Ser	Pro	Gly	Val	Ala	Asn	Ser	Leu	Cys	Asp	Pro	Glu	Ser				
465					470					475					480				
Gly	Gln	Cys	Met	Cys	Arg	Thr	Gly	Phe	Glu	Gly	Asp	Arg	Cys	Asp	His				
				485					490					495					
Cys	Ala	Leu	Gly	Tyr	Phe	His	Phe	Pro	Leu	Cys	Gln	Leu	Cys	Gly	Cys				
		500						505					510						
Ser	Pro	Ala	Gly	Thr	Leu	Pro	Glu	Gly	Cys	Asp	Glu	Ala	Gly	Arg	Cys				
		515					520					525							
Gln	Cys	Arg	Pro	Gly	Phe	Asp	Gly	Pro	His	Cys	Asp	Arg	Cys	Leu	Pro				
	530					535					540								
Gly	Tyr	His	Gly	Tyr	Pro	Asp	Cys	His	Ala	Cys	Ala	Cys	Asp	Pro	Arg				

545		550		555		560
Gly Ala Leu Asp	Gln Gln Cys Gly Val	Gly Gly Leu Cys His Cys Arg				
	565	570			575	
Pro Gly Asn Thr	Gly Ala Thr Cys Gln Glu Cys Ser Pro	Gly Phe Tyr				
	580	585			590	
Gly Phe Pro Ser Cys Ile	Pro Cys His Cys Ser Ala Asp	Gly Ser Leu				
	595	600			605	
His Thr Thr Cys Asp	Pro Thr Thr Gly Gln Cys Arg Cys Arg Pro Arg					
	610	615			620	
Val Thr Gly Leu His Cys Asp	Met Cys Val Pro Gly Ala Tyr Asn Phe					
	625	630			635	640
Pro Tyr Cys Glu Ala Gly Ser Cys His	Pro Ala Gly Leu Ala Pro Ala					
	645	650			655	
Asn Pro Ala Leu Pro Glu Thr Gln Ala	Pro Cys Met Cys Arg Ala His					
	660	665			670	
Val Glu Gly Pro Ser Cys Asp	Arg Cys Lys Pro Gly Tyr Trp Gly Leu					
	675	680			685	
Ser Ala Ser Asn Pro Glu Gly Cys Thr Arg Cys Ser Cys Asp	Pro Arg					
	690	695			700	
Gly Thr Leu Gly Gly Val Thr Glu Cys Gln Gly Asn Gly Gln Cys Phe						
	705	710			715	720
Cys Lys Ala His Val Cys Gly Lys Thr Cys Ala Ala Cys Lys Asp Gly						
	725	730			735	
Phe Phe Gly Leu Asp Tyr Ala Asp Tyr Phe Gly Cys Arg Ser Cys Arg						
	740	745			750	
Cys Asp Val Gly Gly Ala Leu Gly Gln Gly Cys Glu Pro Lys Thr Gly						
	755	760			765	
Ala Cys Arg Cys Arg Pro Asn Thr Gln Gly Pro Thr Cys Ser Glu Pro						
	770	775			780	
Ala Lys Asp His Tyr Leu Pro Asp Leu His His Met Arg Leu Glu Leu						
	785	790			795	800
Glu Glu Ala Ala Thr Pro Glu Gly His Ala Val Arg Phe Gly Phe Asn						
	805	810			815	
Pro Leu Glu Phe Glu Asn Phe Ser Trp Arg Gly Tyr Ala His Met Met						
	820	825			830	
Ala Ile Gln Pro Arg Ile Val Ala Arg Leu Asn Val Thr Ser Pro Asp						
	835	840			845	
Leu Phe Arg Leu Val Phe Arg Tyr Val Asn Arg Gly Ser Thr Ser Val						

850	855	860
Asn Gly Gln Ile Ser Val Arg Glu Glu Gly Lys Leu Ser Ser Cys Thr 865 870 875 880		
Asn Cys Thr Glu Gln Ser Gln Pro Val Ala Phe Pro Pro Ser Thr Glu 885 890 895		
Pro Ala Phe Val Thr Val Pro Gln Arg Gly Phe Gly Glu Pro Phe Val 900 905 910		
Leu Asn Pro Gly Ile Trp Ala Leu Leu Val Glu Ala Glu Gly Val Leu 915 920 925		
Leu Asp Tyr Val Val Leu Leu Pro Ser Thr Tyr Tyr Glu Ala Ala Leu 930 935 940		
Leu Gln His Arg Val Thr Glu Ala Cys Thr Tyr Arg Pro Ser Ala Leu 945 950 955 960		
His Ser Thr Glu Asn Cys Leu Val Tyr Ala His Leu Pro Leu Asp Gly 965 970 975		
Phe Pro Ser Ala Ala Gly Thr Glu Ala Leu Cys Arg His Asp Asn Ser 980 985 990		
Leu Pro Arg Pro Cys Pro Thr Glu Gln Leu Ser Pro Ser His Pro Pro 995 1000 1005		
Leu Ala Thr Cys Phe Gly Ser Asp Val Asp Ile Gln Leu Glu Met Ala 1010 1015 1020		
Val Pro Gln Pro Gly Gln Tyr Val Leu Val Val Glu Tyr Val Gly Glu 1025 1030 1035 1040		
Asp Ser His Gln Glu Met Gly Val Ala Val His Thr Pro Gln Arg Ala 1045 1050 1055		
Pro Gln Gln Gly Val Leu Asn Leu His Pro Cys Pro Tyr Ser Ser Leu 1060 1065 1070		
Cys Arg Ser Pro Ala Arg Asp Thr Gln His His Leu Ala Ile Phe His 1075 1080 1085		
Leu Asp Ser Glu Ala Ser Ile Arg Leu Thr Ala Glu Gln Ala His Phe 1090 1095 1100		
Phe Leu His Ser Val Thr Leu Val Pro Val Glu Glu Phe Ser Thr Glu 1105 1110 1115 1120		
Phe Val Glu Pro Arg Val Phe Cys Val Ser Ser His Gly Thr Phe Asn 1125 1130 1135		
Pro Ser Ser Ala Ala Cys Leu Ala Ser Arg Phe Pro Lys Pro Pro Gln 1140 1145 1150		
Pro Ile Ile Leu Lys Asp Cys Gln Val Leu Pro Leu Pro Pro Asp Leu		

1155	1160	1165
Pro Leu Thr Gln Ser Gln Glu Leu Ser Pro Gly Ala Pro Pro Glu Gly		
1170	1175	1180
Pro Gln Pro Arg Pro Pro Thr Ala Val Asp Pro Asn Ala Glu Pro Thr		
1185	1190	1195 1200
Leu Leu Arg His Pro Gln Gly Thr Val Val Phe Thr Thr Gln Val Pro		
	1205	1210 1215
Thr Leu Gly Arg Tyr Ala Phe Leu Leu His Gly Tyr Gln Pro Val His		
	1220	1225 1230
Pro Ser Phe Pro Val Glu Val Leu Ile Asn Gly Gly Arg Ile Trp Gln		
	1235	1240 1245
Gly His Ala Asn Ala Ser Phe Cys Pro His Gly Tyr Gly Cys Arg Thr		
	1250	1255 1260
Leu Val Leu Cys Glu Gly Gln Thr Met Leu Asp Val Thr Asp Asn Glu		
	1265	1270 1275 1280
Leu Thr Val Thr Val Arg Val Pro Glu Gly Arg Trp Leu Trp Leu Asp		
	1285	1290 1295
Tyr Val Leu Ile Val Pro Glu Asp Ala Tyr Ser Ser Ser Tyr Leu Gln		
	1300	1305 1310
Glu Glu Pro Leu Asp Lys Ser Tyr Asp Phe Ile Ser His Cys Ala Thr		
	1315	1320 1325
Gln Gly Tyr His Ile Ser Pro Ser Ser Ser Ser Pro Phe Cys Arg Asn		
	1330	1335 1340
Ala Ala Thr Ser Leu Ser Leu Phe Tyr Asn Asn Gly Ala Leu Pro Cys		
	1345	1350 1355 1360
Gly Cys His Glu Val Gly Ala Val Ser Pro Thr Cys Glu Pro Phe Gly		
	1365	1370 1375
Gly Gln Cys Pro Cys Arg Gly His Val Ile Gly Arg Asp Cys Ser Arg		
	1380	1385 1390
Cys Ala Thr Gly Tyr Trp Gly Phe Pro Asn Cys Arg Pro Cys Asp Cys		
	1395	1400 1405
Gly Ala Arg Leu Cys Asp Glu Leu Thr Gly Gln Cys Ile Cys Pro Pro		
	1410	1415 1420
Arg Thr Val Pro Pro Asp Cys Leu Val Cys Gln Pro Gln Ser Phe Gly		
	1425	1430 1435 1440
Cys His Pro Leu Val Gly Cys Glu Glu Cys Asn Cys Ser Gly Pro Gly		
	1445	1450 1455
Val Gln Glu Leu Thr Asp Pro Thr Cys Asp Met Asp Ser Gly Gln Cys		



1460	1465	1470
Arg Cys Arg Pro Asn Val Ala Gly Arg Arg Cys Asp Thr Cys Ala Pro 1475 1480 1485		
Gly Phe Tyr Gly Tyr Pro Ser Cys Arg Pro Cys Asp Cys His Glu Ala 1490 1495 1500		
Gly Thr Met Ala Ser Val Cys Asp Pro Leu Thr Gly Gln Cys His Cys 1505 1510 1515 1520		
Lys Glu Asn Val Gln Gly Ser Arg Cys Asp Gln Cys Arg Val Gly Thr 1525 1530 1535		
Phe Ser Leu Asp Ala Ala Asn Pro Lys Gly Cys Thr Arg Cys Phe Cys 1540 1545 1550		
Phe Gly Ala Thr Glu Arg Cys Gly Asn Ser Asn Leu Ala Arg His Glu 1555 1560 1565		
Phe Val Asp Met Glu Gly Trp Val Leu Leu Ser Ser Asp Arg Gln Val 1570 1575 1580		
Val Pro His Glu His Arg Pro Glu Ile Glu Leu Leu His Ala Asp Leu 1585 1590 1595 1600		
Arg Ser Val Ala Asp Thr Phe Ser Glu Leu Tyr Trp Gln Ala Pro Pro 1605 1610 1615		
Ser Tyr Leu Gly Asp Arg Val Ser Ser Tyr Gly Gly Thr Leu His Tyr 1620 1625 1630		
Glu Leu His Ser Glu Thr Gln Arg Gly Asp Ile Phe Ile Pro Tyr Glu 1635 1640 1645		
Ser Arg Pro Asp Val Val Leu Gln Gly Asn Gln Met Ser Ile Ala Phe 1650 1655 1660		
Leu Glu Leu Ala Tyr Pro Pro Pro Gly Gln Val His Arg Gly Gln Leu 1665 1670 1675 1680		
Gln Leu Val Glu Gly Asn Phe Arg His Leu Glu Thr His Asn Pro Val 1685 1690 1695		
Ser Arg Glu Glu Leu Met Met Val Leu Ala Gly Leu Glu Gln Leu Gln 1700 1705 1710		
Ile Arg Ala Leu Phe Ser Gln Thr Ser Ser Ser Val Ser Leu Arg Arg 1715 1720 1725		
Val Val Leu Glu Val Ala Ser Glu Ala Gly Arg Gly Pro Pro Ala Ser 1730 1735 1740		
Asn Val Glu Leu Cys Met Cys Pro Ala Asn Tyr Arg Gly Asp Ser Cys 1745 1750 1755 1760		
Gln Glu Cys Ala Pro Gly Tyr Tyr Arg Asp Thr Lys Gly Leu Phe Leu		

1765	1770	1775
Gly Arg Cys Val Pro Cys Gln Cys His Gly His Ser Asp Arg Cys Leu		
1780	1785	1790
Pro Gly Ser Gly Ile Cys Val Gly Cys Gln His Asn Thr Glu Gly Asp		
1795	1800	1805
Gln Cys Glu Arg Cys Arg Pro Gly Phe Val Ser Ser Asp Pro Ser Asn		
1810	1815	1820
Pro Ala Ser Pro Cys Val Ser Cys Pro Cys Pro Leu Ala Val Pro Ser		
1825	1830	1835
Asn Asn Phe Ala Asp Gly Cys Val Leu Arg Asn Gly Arg Thr Gln Cys		
1845	1850	1855
Leu Cys Arg Pro Gly Tyr Ala Gly Ala Ser Cys Glu Arg Cys Ala Pro		
1860	1865	1870
Gly Phe Phe Gly Asn Pro Leu Val Leu Gly Ser Ser Cys Gln Pro Cys		
1875	1880	1885
Asp Cys Ser Gly Asn Gly Asp Pro Asn Met Ile Phe Ser Asp Cys Asp		
1890	1895	1900
Pro Leu Thr Gly Ala Cys Arg Gly Cys Leu Arg His Thr Thr Gly Pro		
1905	1910	1915
His Cys Glu Arg Cys Ala Pro Gly Phe Tyr Gly Asn Ala Leu Leu Pro		
1925	1930	1935
Gly Asn Cys Thr Arg Cys Asp Cys Ser Pro Cys Gly Thr Glu Thr Cys		
1940	1945	1950
Asp Pro Gln Ser Gly Arg Cys Leu Cys Lys Ala Gly Val Thr Gly Gln		
1955	1960	1965
Arg Cys Asp Arg Cys Leu Glu Gly Tyr Phe Gly Phe Glu Gln Cys Gln		
1970	1975	1980
Gly Cys Arg Pro Cys Ala Cys Gly Pro Ala Ala Lys Gly Ser Glu Cys		
1985	1990	1995
His Pro Gln Ser Gly Gln Cys His Cys Gln Pro Gly Thr Thr Gly Pro		
2005	2010	2015
Gln Cys Leu Glu Cys Ala Pro Gly Tyr Trp Gly Leu Pro Glu Lys Gly		
2020	2025	2030
Cys Arg Arg Cys Gln Cys Pro Arg Gly His Cys Asp Pro His Thr Gly		
2035	2040	2045
His Cys Thr Cys Pro Pro Gly Leu Ser Gly Glu Arg Cys Asp Thr Cys		
2050	2055	2060
Ser Gln Gln His Gln Val Pro Val Pro Gly Lys Pro Gly Gly His Gly		

2065	2070	2075	2080
Ile His Cys Glu Val Cys Asp His Cys Val Val Leu Leu Leu Asp Asp			
2085	2090	2095	
Leu Glu Arg Ala Gly Ala Leu Leu Pro Ala Ile Arg Glu Gln Leu Gln			
2100	2105	2110	
Gly Ile Asn Ala Ser Ser Ala Ala Trp Ala Arg Leu His Arg Leu Asn			
2115	2120	2125	
Ala Ser Ile Ala Asp Leu Gln Ser Lys Leu Arg Arg Pro Pro Gly Pro			
2130	2135	2140	
Arg Tyr Gln Ala Ala Gln Gln Leu Gln Thr Leu Glu Gln Gln Ser Ile			
2145	2150	2155	2160
Ser Leu Gln Gln Asp Thr Glu Arg Leu Gly Ser Gln Ala Thr Gly Val			
2165	2170	2175	
Gln Gly Gln Ala Gly Gln Leu Leu Asp Thr Thr Glu Ser Thr Leu Gly			
2180	2185	2190	
Arg Ala Gln Lys Leu Leu Glu Ser Val Arg Ala Val Gly Arg Ala Leu			
2195	2200	2205	
Asn Glu Leu Ala Ser Arg Met Gly Gln Gly Ser Pro Gly Asp Ala Leu			
2210	2215	2220	
Val Pro Ser Gly Glu Gln Leu Arg Trp Ala Leu Ala Glu Val Glu Arg			
2225	2230	2235	2240
Leu Leu Trp Asp Met Arg Thr Arg Asp Leu Gly Ala Gln Gly Ala Val			
2245	2250	2255	
Ala Glu Ala Glu Leu Ala Glu Ala Gln Arg Leu Met Ala Arg Val Gln			
2260	2265	2270	
Glu Gln Leu Thr Ser Phe Trp Glu Glu Asn Gln Ser Leu Ala Thr His			
2275	2280	2285	
Ile Arg Asp Gln Leu Ala Gln Tyr Glu Ser Gly Leu Met Asp Leu Arg			
2290	2295	2300	
Glu Ala Leu Asn Gln Ala Val Asn Thr Thr Arg Glu Ala Glu Glu Leu			
2305	2310	2315	2320
Asn Ser Arg Asn Gln Glu Arg Val Lys Glu Ala Leu Gln Trp Lys Gln			
2325	2330	2335	
Glu Leu Ser Gln Asp Asn Ala Thr Leu Lys Ala Thr Leu Gln Ala Ala			
2340	2345	2350	
Ser Leu Ile Leu Gly His Val Ser Glu Leu Leu Gln Gly Ile Asp Gln			
2355	2360	2365	
Ala Lys Glu Asp Leu Glu His Leu Ala Ala Ser Leu Asp Gly Ala Trp			

2370	2375	2380
Thr Pro Leu Leu Lys Arg Met Gln Ala Phe Ser Pro Ala Ser Ser Lys		
2385	2390	2395 2400
Val Asp Leu Val Glu Ala Ala Glu Ala His Ala Gln Lys Leu Asn Gln		
	2405	2410 2415
Leu Ala Ile Asn Leu Ser Gly Ile Ile Leu Gly Ile Asn Gln Asp Arg		
	2420	2425 2430
Phe Ile Gln Arg Ala Val Glu Ala Ser Asn Ala Tyr Ser Ser Ile Leu		
	2435	2440 2445
Gln Ala Val Gln Ala Ala Glu Asp Ala Ala Gly Gln Ala Leu Arg Gln		
	2450	2455 2460
Ala Ser Arg Thr Trp Glu Met Val Val Gln Arg Gly Leu Ala Ala Gly		
2465	2470	2475 2480
Ala Arg Gln Leu Leu Ala Asn Ser Ser Ala Leu Glu Glu Thr Ile Leu		
	2485	2490 2495
Gly His Gln Gly Arg Leu Gly Leu Ala Gln Gly Arg Leu Gln Ala Ala		
	2500	2505 2510
Gly Ile Gln Leu His Asn Val Trp Ala Arg Lys Asn Gln Leu Ala Ala		
	2515	2520 2525
Gln Ile Gln Glu Ala Gln Ala Met Leu Ala Met Asp Thr Ser Glu Thr		
	2530	2535 2540
Ser Glu Lys Ile Ala His Ala Lys Ala Val Ala Ala Glu Ala Leu Ser		
2545	2550	2555 2560
Thr Ala Thr His Val Gln Ser Gln Leu Gln Gly Met Gln Lys Asn Val		
	2565	2570 2575
Glu Arg Trp Gln Ser Gln Leu Gly Gly Leu Gln Gly Gln Asp Leu Ser		
	2580	2585 2590
Gln Val Glu Arg Asp Ala Ser Ser Ser Val Ser Thr Leu Glu Lys Thr		
	2595	2600 2605
Leu Pro Gln Leu Leu Ala Lys Leu Ser Arg Leu Glu Asn Arg Gly Val		
	2610	2615 2620
His Asn Ala Ser Leu Ala Leu Ser Ala Asn Ile Gly Arg Val Arg Lys		
2625	2630	2635 2640
Leu Ile Ala Gln Ala Arg Ser Ala Ala Ser Lys Val Lys Val Ser Met		
	2645	2650 2655
Lys Phe Asn Gly Arg Ser Gly Val Arg Leu Arg Pro Pro Arg Asp Leu		
	2660	2665 2670
Ala Asp Leu Ala Ala Tyr Thr Ala Leu Lys Phe His Ile Gln Ser Pro		

2675	2680	2685
Val Pro Ala Pro Glu Pro Gly Lys Asn Thr Gly Asp His Phe Val Leu 2690	2695	2700
Tyr Met Gly Ser Arg Gln Ala Thr Gly Asp Tyr Met Gly Val Ser Leu 2705	2710	2715 2720
Arg Asn Gln Lys Val His Trp Val Tyr Arg Leu Gly Lys Ala Gly Pro 2725	2730	2735
Thr Thr Leu Ser Ile Asp Glu Asn Ile Gly Glu Gln Phe Ala Ala Val 2740	2745	2750
Ser Ile Asp Arg Thr Leu Gln Phe Gly His Met Ser Val Thr Val Glu 2755	2760	2765
Lys Gln Met Val His Glu Ile Lys Gly Asp Thr Val Ala Pro Gly Ser 2770	2775	2780
Glu Gly Leu Leu Asn Leu His Pro Asp Asp Phe Val Phe Tyr Val Gly 2785	2790	2795 2800
Gly Tyr Pro Ser Asn Phe Thr Pro Pro Glu Pro Leu Arg Phe Pro Gly 2805	2810	2815
Tyr Leu Gly Cys Ile Glu Met Glu Thr Leu Asn Glu Glu Val Val Ser 2820	2825	2830
Leu Tyr Asn Phe Glu Gln Thr Phe Met Leu Asp Thr Ala Val Asp Lys 2835	2840	2845
Pro Cys Ala Arg Ser Lys Ala Thr Gly Asp Pro Trp Leu Thr Asp Gly 2850	2855	2860
Ser Tyr Leu Asp Gly Ser Gly Phe Ala Arg Ile Ser Phe Glu Lys Gln 2865	2870	2875 2880
Phe Ser Asn Thr Lys Arg Phe Asp Gln Glu Leu Arg Leu Val Ser Tyr 2885	2890	2895
Asn Gly Ile Ile Phe Phe Leu Lys Gln Glu Ser Gln Phe Leu Cys Leu 2900	2905	2910
Ala Val Gln Glu Gly Thr Leu Val Leu Phe Tyr Asp Phe Gly Ser Gly 2915	2920	2925
Leu Lys Lys Ala Asp Pro Leu Gln Pro Pro Gln Ala Leu Thr Ala Ala 2930	2935	2940
Ser Lys Ala Ile Gln Val Phe Leu Leu Ala Gly Asn Arg Lys Arg Val 2945	2950	2955 2960
Leu Val Arg Val Glu Arg Ala Thr Val Phe Ser Val Asp Gln Asp Asn 2965	2970	2975
Met Leu Glu Met Ala Asp Ala Tyr Tyr Leu Gly Gly Val Pro Pro Glu		

2980	2985	2990
Gln Leu Pro Leu Ser Leu Arg Gln Leu Phe Pro Ser Gly Gly Ser Val 2995 3000 3005		
Arg Gly Cys Ile Lys Gly Ile Lys Ala Leu Gly Lys Tyr Val Asp Leu 3010 3015 3020		
Lys Arg Leu Asn Thr Thr Gly Ile Ser Phe Gly Cys Thr Ala Asp Leu 3025 3030 3035 3040		
Leu Val Gly Arg Thr Met Thr Phe His Gly His Gly Phe Leu Pro Leu 3045 3050 3055		
Ala Leu Pro Asp Val Ala Pro Ile Thr Glu Val Val Tyr Ser Gly Phe 3060 3065 3070		
Gly Phe Arg Gly Thr Gln Asp Asn Asn Leu Leu Tyr Tyr Arg Thr Ser 3075 3080 3085		
Pro Asp Gly Pro Tyr Gln Val Ser Leu Arg Glu Gly His Val Thr Leu 3090 3095 3100		
Arg Phe Met Asn Gln Glu Val Glu Thr Gln Arg Val Phe Ala Asp Gly 3105 3110 3115 3120		
Ala Pro His Tyr Val Ala Phe Tyr Ser Asn Val Thr Gly Val Trp Leu 3125 3130 3135		
Tyr Val Asp Asp Gln Leu Gln Leu Val Lys Ser His Glu Arg Thr Thr 3140 3145 3150		
Pro Met Leu Gln Leu Gln Pro Glu Glu Pro Ser Arg Leu Leu Leu Gly 3155 3160 3165		
Gly Leu Pro Val Ser Gly Thr Phe His Asn Phe Ser Gly Cys Ile Ser 3170 3175 3180		
Asn Val Phe Val Gln Arg Leu Arg Gly Pro Gln Arg Val Phe Asp Leu 3185 3190 3195 3200		
His Gln Asn Met Gly Ser Val Asn Val Ser Val Gly Cys Thr Pro Ala 3205 3210 3215		
Gln Leu Ile Glu Thr Ser Arg Ala Thr Ala Gln Lys Val Ser Arg Arg 3220 3225 3230		
Ser Arg Gln Pro Ser Gln Asp Leu Ala Cys Thr Thr Pro Trp Leu Pro 3235 3240 3245		
Gly Thr Ile Gln Asp Ala Tyr Gln Phe Gly Gly Pro Leu Pro Ser Tyr 3250 3255 3260		
Leu Gln Phe Val Gly Ile Ser Pro Ser His Arg Asn Arg Leu His Leu 3265 3270 3275 3280		
Ser Met Leu Val Arg Pro His Ala Ala Ser Gln Gly Leu Leu Leu Ser		

3285	3290	3295
Thr Ala Pro Met Ser Gly Arg Ser Pro Ser Leu Val Leu Phe Leu Asn 3300 3305 3310		
His Gly His Phe Val Ala Gln Thr Glu Gly Pro Gly Pro Arg Leu Gln 3315 3320 3325		
Val Gln Ser Arg Gln His Ser Arg Ala Gly Gln Trp His Arg Val Ser 3330 3335 3340		
Val Arg Trp Gly Met Gln Gln Ile Gln Leu Val Val Asp Gly Ser Gln 3345 3350 3355 3360		
Thr Trp Ser Gln Lys Ala Leu His His Arg Val Pro Arg Ala Glu Arg 3365 3370 3375		
Pro Gln Pro Tyr Thr Leu Ser Val Gly Gly Leu Pro Ala Ser Ser Tyr 3380 3385 3390		
Ser Ser Lys Leu Pro Val Ser Val Gly Phe Ser Gly Cys Leu Lys Lys 3395 3400 3405		
Leu Gln Leu Asp Lys Gln Pro Leu Arg Thr Pro Thr Gln Met Val Gly 3410 3415 3420		
Val Thr Pro Cys Val Ser Gly Pro Leu Glu Asp Gly Leu Phe Phe Pro 3425 3430 3435 3440		
Gly Ser Glu Gly Val Val Thr Leu Glu Leu Pro Lys Ala Lys Met Pro 3445 3450 3455		
Tyr Val Ser Leu Glu Leu Glu Met Arg Pro Leu Ala Ala Ala Gly Leu 3460 3465 3470		
Ile Phe His Leu Gly Gln Ala Leu Ala Thr Pro Tyr Met Gln Leu Lys 3475 3480 3485		
Val Leu Thr Glu Gln Val Leu Leu Gln Ala Asn Asp Gly Ala Gly Glu 3490 3495 3500		
Phe Ser Thr Trp Val Thr Tyr Pro Lys Leu Cys Asp Gly Arg Trp His 3505 3510 3515 3520		
Arg Val Ala Val Ile Met Gly Arg Asp Thr Leu Arg Leu Glu Val Asp 3525 3530 3535		
Thr Gln Ser Asn His Thr Thr Gly Arg Leu Pro Glu Ser Leu Ala Gly 3540 3545 3550		
Ser Pro Ala Leu Leu His Leu Gly Ser Leu Pro Lys Ser Ser Thr Ala 3555 3560 3565		
Arg Pro Glu Leu Pro Ala Tyr Arg Gly Cys Leu Arg Lys Leu Leu Ile 3570 3575 3580		
Asn Gly Ala Pro Val Asn Val Thr Ala Ser Val Gln Ile Gln Gly Ala		





Asn Glu Arg Pro Ser Ser Thr Asn Tyr Phe Asn Ser Thr Val Leu Gln  
 210 215 220  
 Glu Trp Thr Arg Ala Thr Asn Val Arg Ile Arg Leu Leu Arg Thr Lys  
 225 230 235 240  
 Asn Leu Leu Gly His Leu Met Ser Val Ala Arg Gln Asp Pro Thr Val  
 245 250 255  
 Thr Arg Arg Tyr Phe Tyr Ser Ile Lys Asp Ile Ser Ile Gly Gly Arg  
 260 265 270  
 Cys Met Cys Asn Gly His Ala Asp Thr Cys Asp Val Lys Asp Pro Lys  
 275 280 285  
 Ser Pro Val Arg Ile Leu Ala Cys Arg Cys Gln His His Thr Cys Gly  
 290 295 300  
 Ile Gln Cys Asn Glu Cys Cys Pro Gly Phe Glu Gln Lys Lys Trp Arg  
 305 310 315 320  
 Gln Asn Thr Asn Ala Arg Pro Phe Asn Cys Glu Pro Cys Asn Cys His  
 325 330 335  
 Gly His Ser Asn Glu Cys Lys Tyr Asp Glu Glu Val Asn Arg Lys Gly  
 340 345 350  
 Leu Ser Leu Asp Ile His Gly His Tyr Asp Gly Gly Gly Val Cys Gln  
 355 360 365  
 Asn Cys Gln His Asn Thr Val Gly Ile Asn Cys Asn Lys Cys Lys Pro  
 370 375 380  
 Lys Tyr Tyr Arg Pro Lys Gly Lys His Trp Asn Glu Thr Asp Val Cys  
 385 390 395 400  
 Ser Pro Cys Gln Cys Asp Tyr Phe Phe Ser Thr Gly His Cys Glu Glu  
 405 410 415  
 Glu Thr Gly Asn Cys Glu Cys Arg Ala Ala Phe Gln Pro Pro Ser Cys  
 420 425 430  
 Asp Ser Cys Ala Tyr Gly Tyr Tyr Gly Tyr Pro Asn Cys Arg Glu Cys  
 435 440 445  
 Glu Cys Asn Leu Asn Gly Thr Asn Gly Tyr His Cys Glu Ala Glu Ser  
 450 455 460  
 Gly Gln Gln Cys Pro Cys Lys Ile Asn Phe Ala Gly Ala Tyr Cys Lys  
 465 470 475 480  
 Gln Cys Ala Glu Gly Tyr Tyr Gly Phe Pro Glu Cys Lys Ala Cys Glu  
 485 490 495  
 Cys Asn Lys Ile Gly Ser Ile Thr Asn Asp Cys Asn Val Thr Thr Gly  
 500 505 510

Glu Cys Lys Cys Leu Thr Asn Phe Gly Gly Asp Asn Cys Glu Arg Cys  
 515 520 525  
 Lys His Gly Tyr Phe Asn Tyr Pro Thr Cys Ser Tyr Cys Asp Cys Asp  
 530 535 540  
 Asn Gln Gly Thr Glu Ser Glu Ile Cys Asn Lys Gln Ser Gly Gln Cys  
 545 550 555 560  
 Ile Cys Arg Glu Gly Phe Gly Gly Pro Arg Cys Asp Gln Cys Leu Pro  
 565 570 575  
 Gly Phe Tyr Asn Tyr Pro Asp Cys Lys Pro Cys Asn Cys Ser Ser Thr  
 580 585 590  
 Gly Ser Ser Ala Ile Thr Cys Asp Asn Thr Gly Lys Cys Asn Cys Leu  
 595 600 605  
 Asn Asn Phe Ala Gly Lys Gln Cys Thr Leu Cys Thr Ala Gly Tyr Tyr  
 610 615 620  
 Ser Tyr Pro Asp Cys Leu Pro Cys His Cys Asp Ser His Gly Ser Gln  
 625 630 635 640  
 Gly Val Ser Cys Asn Ser Asp Gly Gln Cys Leu Cys Gln Pro Asn Phe  
 645 650 655  
 Asp Gly Arg Gln Cys Asp Ser Cys Lys Glu Gly Phe Tyr Asn Phe Pro  
 660 665 670  
 Ser Cys Glu Asp Cys Asn Cys Asp Pro Ala Gly Val Ile Asp Lys Phe  
 675 680 685  
 Ala Gly Cys Gly Ser Val Pro Val Gly Glu Leu Cys Lys Cys Lys Glu  
 690 695 700  
 Arg Val Thr Gly Arg Ile Cys Asn Glu Cys Lys Pro Leu Tyr Trp Asn  
 705 710 715 720  
 Leu Asn Ile Ser Asn Thr Glu Gly Cys Glu Ile Cys Asp Cys Trp Thr  
 725 730 735  
 Asp Gly Thr Ile Ser Ala Leu Asp Thr Cys Thr Ser Lys Ser Gly Gln  
 740 745 750  
 Cys Pro Cys Lys Pro His Thr Gln Gly Arg Arg Cys Gln Glu Cys Arg  
 755 760 765  
 Asp Gly Thr Phe Asp Leu Asp Ser Ala Ser Leu Phe Gly Cys Lys Asp  
 770 775 780  
 Cys Ser Cys Asp Val Gly Gly Ser Trp Gln Ser Val Cys Asp Lys Ile  
 785 790 795 800  
 Ser Gly Gln Cys Lys Cys His Pro Arg Ile Thr Gly Leu Ala Cys Thr  
 805 810 815

Gln Pro Leu Thr Thr His Phe Phe Pro Thr Leu His Gln Phe Gln Tyr  
 820 825 830  
 Glu Tyr Glu Asp Gly Ser Leu Pro Ser Gly Thr Gln Val Arg Tyr Asp  
 835 840 845  
 Tyr Asp Glu Ala Ala Phe Pro Gly Phe Ser Ser Lys Gly Tyr Val Val  
 850 855 860  
 Phe Asn Ala Ile Gln Asn Asp Val Arg Asn Glu Val Asn Val Phe Lys  
 865 870 875 880  
 Ser Ser Leu Tyr Arg Ile Val Leu Arg Tyr Val Asn Pro Asn Ala Glu  
 885 890 895  
 Asn Val Thr Ala Thr Ile Ser Val Thr Ser Asp Asn Pro Leu Glu Val  
 900 905 910  
 Asp Gln His Val Lys Val Leu Leu Gln Pro Thr Ser Glu Pro Gln Phe  
 915 920 925  
 Val Thr Val Ala Gly Pro Leu Gly Val Lys Pro Ser Ala Ile Val Leu  
 930 935 940  
 Asp Pro Gly Arg Tyr Val Phe Thr Thr Lys Ala Asn Lys Asn Val Met  
 945 950 955 960  
 Leu Asp Tyr Phe Val Leu Leu Pro Ala Ala Tyr Tyr Glu Ala Gly Ile  
 965 970 975  
 Leu Thr Arg His Ile Ser Asn Pro Cys Glu Leu Gly Asn Met Glu Leu  
 980 985 990  
 Cys Arg His Tyr Lys Tyr Ala Ser Val Glu Val Phe Ser Pro Ala Ala  
 995 1000 1005  
 Thr Pro Phe Val Ile Gly Glu Asn Ser Lys Pro Thr Asn Pro Val Glu  
 1010 1015 1020  
 Thr Tyr Thr Asp Pro Glu His Leu Gln Ile Val Ser His Val Gly Asp  
 1025 1030 1035 1040  
 Ile Pro Val Leu Ser Gly Ser Gln Asn Glu Leu His Tyr Ile Val Asp  
 1045 1050 1055  
 Val Pro Arg Ser Gly Arg Tyr Ile Phe Val Ile Asp Tyr Ile Ser Asp  
 1060 1065 1070  
 Arg Asn Phe Pro Asp Ser Tyr Tyr Ile Asn Leu Lys Leu Lys Asp Asn  
 1075 1080 1085  
 Pro Asp Ser Glu Thr Ser Val Leu Leu Tyr Pro Cys Leu Tyr Ser Thr  
 1090 1095 1100  
 Ile Cys Arg Thr Ser Val Asn Glu Asp Gly Met Glu Lys Ser Phe Tyr  
 1105 1110 1115 1120

Ile Asn Lys Glu Asp Leu Gln Pro Val Ile Ile Ser Ala Asp Ile Glu  
 1125 1130 1135  
 Asp Gly Ser Arg Phe Pro Ile Ile Ser Val Thr Ala Ile Pro Val Asp  
 1140 1145 1150  
 Gln Trp Ser Ile Asp Tyr Ile Asn Pro Ser Pro Val Cys Val Ile His  
 1155 1160 1165  
 Asp Gln Gln Cys Ala Thr Pro Lys Phe Arg Ser Val Pro Asp Ser Lys  
 1170 1175 1180  
 Lys Ile Glu Phe Glu Thr Asp His Glu Asp Arg Ile Ala Thr Asn Lys  
 1185 1190 1195 1200  
 Pro Pro Tyr Ala Ser Leu Asp Glu Arg Val Lys Leu Val His Leu Asp  
 1205 1210 1215  
 Ser Gln Asn Glu Ala Thr Ile Val Ile Glu Ser Lys Val Asp Ala Thr  
 1220 1225 1230  
 Lys Pro Asn Leu Phe Val Ile Leu Val Lys Tyr Tyr Gln Pro Ser His  
 1235 1240 1245  
 Pro Lys Tyr Gln Val Tyr Tyr Thr Leu Thr Ala Gly Lys Asn Gln Tyr  
 1250 1255 1260  
 Asp Gly Lys Phe Asp Ile Gln His Cys Pro Ser Ser Ser Gly Cys Arg  
 1265 1270 1275 1280  
 Gly Val Ile Arg Pro Ala Gly Glu Gly Ser Phe Glu Ile Asp Asp Glu  
 1285 1290 1295  
 Phe Lys Phe Thr Ile Thr Thr Asp Arg Ser Gln Ser Val Trp Leu Asp  
 1300 1305 1310  
 Tyr Leu Val Val Val Pro Leu Lys Gln Tyr Asn Asp Asp Leu Leu Val  
 1315 1320 1325  
 Glu Glu Thr Phe Asp Gln Thr Lys Glu Phe Ile Gln Asn Cys Gly His  
 1330 1335 1340  
 Asp His Phe His Ile Thr His Asn Ala Ser Asp Phe Cys Lys Lys Ser  
 1345 1350 1355 1360  
 Val Phe Ser Leu Thr Ala Asp Tyr Asn Ser Gly Ala Leu Pro Cys Asn  
 1365 1370 1375  
 Cys Asp Tyr Ala Gly Ser Thr Ser Phe Glu Cys His Pro Phe Gly Gly  
 1380 1385 1390  
 Gln Cys Gln Cys Lys Pro Asn Val Ile Glu Arg Thr Cys Gly Arg Cys  
 1395 1400 1405  
 Arg Ser Arg Tyr Tyr Gly Phe Pro Asp Cys Lys Pro Cys Lys Cys Pro  
 1410 1415 1420

Asn Ser Ala Met Cys Glu Pro Thr Thr Gly Glu Cys Met Cys Pro Pro  
 1425 1430 1435 1440  
 Asn Val Ile Gly Asp Leu Cys Glu Lys Cys Ala Pro Asn Thr Tyr Gly  
 1445 1450 1455  
 Phe His Gln Val Ile Gly Cys Glu Glu Cys Ala Cys Asn Pro Met Gly  
 1460 1465 1470  
 Ile Ala Asn Gly Asn Ser Gln Cys Asp Leu Phe Asn Gly Thr Cys Glu  
 1475 1480 1485  
 Cys Arg Gln Asn Ile Glu Gly Arg Ala Cys Asp Val Cys Ser Asn Gly  
 1490 1495 1500  
 Tyr Phe Asn Phe Pro His Cys Glu Gln Cys Ser Cys His Lys Pro Gly  
 1505 1510 1515 1520  
 Thr Glu Leu Glu Val Cys Asp Lys Ile Asp Gly Ala Cys Phe Cys Lys  
 1525 1530 1535  
 Lys Asn Val Val Gly Arg Asp Cys Asp Gln Cys Val Asp Gly Thr Tyr  
 1540 1545 1550  
 Asn Leu Gln Glu Ser Asn Pro Asp Gly Cys Thr Thr Cys Phe Cys Phe  
 1555 1560 1565  
 Gly Lys Thr Ser Arg Cys Asp Ser Ala Tyr Leu Arg Val Tyr Asn Val  
 1570 1575 1580  
 Ser Leu Leu Lys His Val Ser Ile Thr Thr Pro Glu Phe His Glu Glu  
 1585 1590 1595 1600  
 Ser Ile Lys Phe Asp Met Trp Pro Val Pro Ala Asp Glu Ile Leu Leu  
 1605 1610 1615  
 Asn Glu Thr Thr Leu Lys Ala Asp Phe Thr Leu Arg Glu Val Asn Asp  
 1620 1625 1630  
 Glu Arg Pro Ala Tyr Phe Gly Val Leu Asp Tyr Leu Leu Asn Gln Asn  
 1635 1640 1645  
 Asn His Ile Ser Ala Tyr Gly Gly Asp Leu Ala Tyr Thr Leu His Phe  
 1650 1655 1660  
 Thr Ser Gly Phe Asp Gly Lys Tyr Ile Val Ala Pro Asp Val Ile Leu  
 1665 1670 1675 1680  
 Phe Ser Glu His Asn Ala Leu Val His Thr Ser Tyr Glu Gln Pro Ser  
 1685 1690 1695  
 Arg Asn Glu Pro Phe Thr Asn Arg Val Asn Ile Val Glu Ser Asn Phe  
 1700 1705 1710  
 Gln Thr Ile Ser Gly Lys Pro Val Ser Arg Ala Asp Phe Met Met Val  
 1715 1720 1725

Leu Arg Asp Leu Lys Val Ile Phe Ile Arg Ala Asn Tyr Trp Glu Gln  
 1730 1735 1740  
 Thr Leu Val Thr His Leu Ser Asp Val Tyr Leu Thr Leu Ala Asp Glu  
 1745 1750 1755 1760  
 Asp Ala Asp Gly Thr Gly Glu Tyr Gln Phe Leu Ala Val Glu Arg Cys  
 1765 1770 1775  
 Ser Cys Pro Pro Gly Tyr Ser Gly His Ser Cys Glu Asp Cys Ala Pro  
 1780 1785 1790  
 Gly Tyr Tyr Arg Asp Pro Ser Gly Pro Tyr Gly Gly Tyr Cys Ile Pro  
 1795 1800 1805  
 Cys Glu Cys Asn Gly His Ser Glu Thr Cys Asp Cys Ala Thr Gly Ile  
 1810 1815 1820  
 Cys Ser Lys Cys Gln His Gly Thr Glu Gly Asp His Cys Glu Arg Cys  
 1825 1830 1835 1840  
 Val Ser Gly Tyr Tyr Gly Asn Ala Thr Asn Gly Thr Pro Gly Asp Cys  
 1845 1850 1855  
 Met Ile Cys Ala Cys Pro Leu Pro Phe Asp Ser Asn Asn Phe Ala Thr  
 1860 1865 1870  
 Ser Cys Glu Ile Ser Glu Ser Gly Asp Gln Ile His Cys Glu Cys Lys  
 1875 1880 1885  
 Pro Gly Tyr Thr Gly Pro Arg Cys Glu Ser Cys Ala Asn Gly Phe Tyr  
 1890 1895 1900  
 Gly Glu Pro Glu Ser Ile Gly Gln Val Cys Lys Pro Cys Glu Cys Ser  
 1905 1910 1915 1920  
 Gly Asn Ile Asn Pro Glu Asp Gln Gly Ser Cys Asp Thr Arg Thr Gly  
 1925 1930 1935  
 Glu Cys Leu Arg Cys Leu Asn Asn Thr Phe Gly Ala Ala Cys Asn Leu  
 1940 1945 1950  
 Cys Ala Pro Gly Phe Tyr Gly Asp Ala Ile Lys Leu Lys Asn Cys Gln  
 1955 1960 1965  
 Ser Cys Asp Cys Asp Asp Leu Gly Thr Gln Thr Cys Asp Pro Phe Val  
 1970 1975 1980  
 Gly Val Cys Thr Cys His Glu Asn Val Ile Gly Asp Arg Cys Asp Arg  
 1985 1990 1995 2000  
 Cys Lys Pro Asp His Tyr Gly Phe Glu Ser Gly Val Gly Cys Arg Ala  
 2005 2010 2015  
 Cys Asp Cys Gly Ala Ala Ser Asn Ser Thr Gln Cys Asp Pro His Thr  
 2020 2025 2030

Gly His Cys Ala Cys Lys Ser Gly Val Thr Gly Arg Gln Cys Asp Arg  
 2035 2040 2045  
 Cys Ala Val Asp His Trp Lys Tyr Glu Lys Asp Gly Cys Thr Pro Cys  
 2050 2055 2060  
 Asn Cys Asn Gln Gly Tyr Ser Arg Gly Phe Gly Cys Asn Pro Asn Thr  
 2065 2070 2075 2080  
 Gly Lys Cys Gln Cys Leu Pro Gly Val Ile Gly Asp Arg Cys Asp Ala  
 2085 2090 2095  
 Cys Pro Asn Arg Trp Val Leu Ile Lys Asp Glu Gly Cys Gln Glu Cys  
 2100 2105 2110  
 Asn Asn Cys His His Ala Leu Leu Asp Val Thr Asp Arg Met Arg Tyr  
 2115 2120 2125  
 Gln Ile Asp Ser Val Leu Glu Asp Phe Asn Ser Val Thr Leu Ala Phe  
 2130 2135 2140  
 Phe Thr Ser Gln Lys Leu Asn Tyr Tyr Asp Gln Leu Ala Asp Glu Leu  
 2145 2150 2155 2160  
 Glu Pro Lys Val Lys Leu Leu Asp Pro Asn Ser Val Asp Leu Ser Pro  
 2165 2170 2175  
 Ser Lys Lys Ala Asn Ser Glu Leu Glu Ser Asp Ala Lys Ser Tyr Ala  
 2180 2185 2190  
 Lys Gln Val Asn Gln Thr Leu Ala Asn Ala Phe Asp Ile Arg Glu Arg  
 2195 2200 2205  
 Ser Ser Thr Thr Leu Gly Asn Ile Thr Val Ala Tyr Asp Glu Ala Val  
 2210 2215 2220  
 Lys Ser Ala Asp Gln Ala Lys Glu Ala Ile Ala Ser Val Glu Ala Leu  
 2225 2230 2235 2240  
 Ser Lys Asn Leu Glu Ala Ala Ala Ser Thr Lys Ile Asp Ala Ala Leu  
 2245 2250 2255  
 Glu Gln Ala Gln His Ile Leu Gly Gln Ile Asn Gly Thr Ser Ile Glu  
 2260 2265 2270  
 Leu Thr Pro Asn Glu Gln Val Leu Glu Lys Ala Arg Lys Leu Tyr Glu  
 2275 2280 2285  
 Glu Val Asn Thr Leu Val Leu Pro Ile Lys Ala Gln Asn Lys Ser Leu  
 2290 2295 2300  
 Asn Ala Leu Lys Asn Asp Ile Gly Glu Phe Ser Asp His Leu Glu Asp  
 2305 2310 2315 2320  
 Leu Phe Asn Trp Ser Glu Ala Ser Gln Ala Lys Ser Ala Asp Val Glu  
 2325 2330 2335

Arg Arg Asn Val Ala Asn Gln Lys Ala Phe Asp Asn Ser Lys Phe Asp  
 2340 2345 2350  
 Thr Val Ser Glu Gln Lys Leu Gln Ala Glu Lys Asn Ile Lys Asp Ala  
 2355 2360 2365  
 Gly Asn Phe Leu Ile Asn Gly Asp Leu Thr Leu Asn Gln Ile Asn Gln  
 2370 2375 2380  
 Lys Leu Asp Asn Leu Arg Asp Ala Leu Asn Glu Leu Asn Ser Phe Asn  
 2385 2390 2395 2400  
 Lys Asn Val Asp Glu Glu Leu Pro Val Arg Glu Asp Gln His Lys Glu  
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 Ala Asp Ala Leu Thr Asp Gln Ala Glu Gln Lys Ala Ala Glu Leu Ala  
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 Ile Lys Ala Gln Asp Leu Ala Ala Gln Tyr Thr Asp Met Thr Ala Ser  
 2435 2440 2445  
 Ala Glu Pro Ala Ile Lys Ala Ala Thr Ala Tyr Ser Gly Ile Val Glu  
 2450 2455 2460  
 Ala Val Glu Ala Ala Gln Lys Leu Ser Gln Asp Ala Ile Ser Ala Ala  
 2465 2470 2475 2480  
 Gly Asn Ala Thr Asp Lys Thr Asp Gly Ile Glu Glu Arg Ala His Leu  
 2485 2490 2495  
 Ala Asp Thr Gly Ser Thr Asp Leu Leu Gln Arg Ala Arg Gln Ser Leu  
 2500 2505 2510  
 Gln Lys Val Gln Asp Asp Leu Glu Pro Arg Leu Asn Ala Ser Ala Gly  
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 Lys Val Gln Lys Ile Ser Ala Val Asn Asn Ala Thr Glu His Gln Leu  
 2530 2535 2540  
 Lys Asp Ile Asn Lys Leu Ile Asp Gln Leu Pro Ala Glu Ser Gln Arg  
 2545 2550 2555 2560  
 Asp Met Trp Lys Asn Ser Asn Ala Asn Ala Ser Asp Ala Leu Glu Ile  
 2565 2570 2575  
 Leu Lys Asn Val Leu Glu Ile Leu Glu Pro Val Ser Val Gln Thr Pro  
 2580 2585 2590  
 Lys Glu Leu Glu Lys Ala His Gly Ile Asn Arg Asp Leu Asp Leu Thr  
 2595 2600 2605  
 Asn Lys Asp Val Ser Gln Ala Asn Lys Gln Leu Asp Asp Val Glu Gly  
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 Ser Val Ser Lys Leu Asn Glu Leu Ala Glu Asp Ile Glu Glu Gln Gln  
 2625 2630 2635 2640



His Arg Val Gly Ser Gln Ser Arg Gln Leu Gly Gln Glu Ile Glu Asn  
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 Leu Lys Ala Gln Val Glu Ala Ala Arg Gln Leu Ala Asn Ser Ile Lys  
 2660 2665 2670  
 Val Gly Val Asn Phe Lys Pro Ser Thr Ile Leu Glu Leu Lys Thr Pro  
 2675 2680 2685  
 Glu Lys Thr Lys Leu Leu Ala Thr Arg Thr Asn Leu Ser Thr Tyr Phe  
 2690 2695 2700  
 Arg Thr Thr Glu Pro Ser Gly Phe Leu Leu Tyr Leu Gly Asn Asp Asn  
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 Lys Thr Ala Gln Lys Asn Asn Asp Phe Val Ala Val Glu Ile Val Asn  
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 Gly Tyr Pro Ile Leu Thr Ile Asp Leu Gly Asn Gly Pro Glu Arg Ile  
 2740 2745 2750  
 Thr Ser Asp Lys Tyr Val Ala Asp Gly Arg Trp Tyr Gln Ala Val Val  
 2755 2760 2765  
 Asp Arg Met Gly Pro Asn Ala Lys Leu Thr Ile Arg Glu Glu Leu Pro  
 2770 2775 2780  
 Asn Gly Asp Val Val Glu His Ser Lys Ser Gly Tyr Leu Glu Gly Ser  
 2785 2790 2795 2800  
 Gln Asn Ile Leu His Val Asp Lys Asn Ser Arg Leu Phe Val Gly Gly  
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 Tyr Pro Gly Ile Ser Asp Phe Asn Ala Pro Pro Asp Leu Thr Thr Asn  
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 Ser Phe Ser Gly Asp Ile Glu Asp Leu Lys Ile Gly Asp Glu Ser Val  
 2835 2840 2845  
 Gly Leu Trp Asn Phe Val Tyr Gly Asp Asp Asn Asp Gln Gly Ala Arg  
 2850 2855 2860  
 Glu Arg Asp Val Leu Leu Glu Lys Lys Lys Pro Val Thr Gly Leu Arg  
 2865 2870 2875 2880  
 Phe Lys Gly Asn Gly Tyr Val Gln Leu Asn Ala Thr Ser Asn Leu Lys  
 2885 2890 2895  
 Ser Arg Ser Ser Ile Gln Phe Ser Phe Lys Ala Asp Lys Asp Thr Ser  
 2900 2905 2910  
 Asn Gly Leu Leu Phe Phe Tyr Gly Arg Asp Lys His Tyr Met Ser Ile  
 2915 2920 2925  
 Glu Met Ile Asp Gly Ala Ile Phe Phe Asn Ile Ser Leu Gly Glu Gly  
 2930 2935 2940

Gly Gly Val Gln Ser Gly Ser Gln Asp Arg Tyr Asn Asp Asn Gln Trp  
 2945 2950 2955 2960  
 His Lys Val Gln Ala Glu Arg Glu Asn Arg Asn Gly Leu Leu Lys Val  
 2965 2970 2975  
 Asp Asp Ile Val Ile Ser Arg Thr Asn Ala Pro Leu Glu Ala Asp Leu  
 2980 2985 2990  
 Glu Leu Pro Lys Leu Arg Arg Leu Tyr Phe Gly Gly His Pro Arg Arg  
 2995 3000 3005  
 Leu Asn Thr Ser Ile Ser Leu Gln Pro Asn Phe Asp Gly Cys Ile Asp  
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 Asn Val Val Ile Asn Gln Gly Val Val Asp Leu Thr Glu Tyr Val Thr  
 3025 3030 3035 3040  
 Gly Gly Gly Val Glu Glu Gly Cys Ser Ala Lys Phe Ser Thr Val Val  
 3045 3050 3055  
 Ser Tyr Ala Pro His Glu Tyr Gly Phe Leu Arg Met Asn Asn Val Ser  
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 Ser Asp Asn Asn Leu His Val Val Leu His Phe Lys Thr Thr Gln Pro  
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 Asn Gly Val Leu Phe Tyr Ala Ala Asn His Asp Gln Ser Ser Thr Ile  
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 Gly Leu Ser Leu Gln Asp Gly Leu Leu Lys Leu Asn Ser Met Gly Ser  
 3105 3110 3115 3120  
 Gln Leu Val Ile Asp Asp Arg Ile Leu Asn Asp Gly Glu Asp His Val  
 3125 3130 3135  
 Val Thr Val Gln His Thr Gln Gly Glu Leu Arg Leu Thr Val Asp Asp  
 3140 3145 3150  
 Val Asp Asn Lys Arg Leu Gly Ser Pro Gln Pro Leu Ile Leu Glu Gly  
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 Gly Asp Ile Phe Phe Ala Gly Leu Pro Asp Asn Tyr Arg Thr Pro Arg  
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 Asn Ala Leu Ala Ser Leu Ala Tyr Phe Val Gly Cys Ile Ser Asp Val  
 3185 3190 3195 3200  
 Thr Val Asn Glu Glu Ile Ile Asn Phe Ala Asn Ser Ala Glu Lys Lys  
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 Asn Gly Asn Ile Asn Gly Cys Pro Pro His Val Leu Ala Tyr Glu Pro  
 3220 3225 3230  
 Ser Leu Val Pro Ser Tyr Tyr Pro Ser Gly Asp Asn Glu Val Glu Ser  
 3235 3240 3245

Pro Trp Ser Asn Ala Asp Thr Leu Pro Pro Leu Lys Pro Asp Ile Glu  
 3250 3255 3260  
 Ser Thr Leu Pro Pro Thr Thr Pro Thr Thr Thr Thr Thr Thr Thr  
 3265 3270 3275 3280  
 Thr Thr Thr Ser Thr Thr Thr Thr Ser Thr Thr Thr Thr Thr Thr Thr  
 3285 3290 3295  
 Pro Ser Pro Ile Val Ile Asp Glu Glu Lys Glu Ile Glu Ala Lys Thr  
 3300 3305 3310  
 Pro Gln Lys Ile Leu Thr Thr Arg Pro Pro Ala Lys Leu Asn Leu Pro  
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 Ser Asp Glu Arg Cys Lys Leu Pro Glu Gln Pro Asn Phe Asp Val Asp  
 3330 3335 3340  
 Phe Thr Glu Ala Gly Tyr Arg Phe Tyr Gly Leu Arg Glu Gln Arg Leu  
 3345 3350 3355 3360  
 Gln Ile Asn Ser Leu Pro Val Lys Val Arg Arg His His Asp Ile Gly  
 3365 3370 3375  
 Ile Ser Phe Arg Thr Glu Arg Pro Asn Gly Leu Leu Ile Tyr Ala Gly  
 3380 3385 3390  
 Ser Lys Gln Arg Asp Asp Phe Ile Ala Val Tyr Leu Leu Asp Gly Arg  
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 3425 3430 3435 3440  
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 3460 3465 3470  
 Glu Leu Pro Ile Tyr Leu Gly Gly Val Asn Lys Phe Leu Glu Ser Glu  
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 Val Lys Asn Leu Thr Asp Phe Lys Thr Glu Val Pro Tyr Phe Asn Gly  
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 Cys Leu Lys Asn Ile Lys Phe Asp Ala Met Asp Leu Glu Thr Pro Pro  
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Val Gly Thr Glu Met Lys Ile Ser Phe Asp Phe Arg Pro Arg Asp Pro  
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 Asn Gly Leu Leu Phe Ser Val His Gly Lys Asn Ser Tyr Ala Ile Leu  
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 Glu Leu Val Asp Asn Thr Leu Tyr Phe Thr Val Lys Thr Asp Leu Lys  
 3585 3590 3595 3600  
 Asn Ile Val Ser Thr Asn Tyr Lys Leu Pro Asn Asn Glu Ser Phe Cys  
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 Asn Ile Ala Val Asp Phe Ile Ser Ser Asn Pro Gly Val Gly Asn Glu  
 3635 3640 3645  
 Gly Ser Val Ile Thr Arg Thr Asn Arg Pro Leu Phe Leu Gly Gly His  
 3650 3655 3660  
 Val Ala Phe Gln Arg Ala Pro Gly Ile Lys Thr Lys Lys Ser Phe Lys  
 3665 3670 3675 3680  
 Gly Cys Ile Ser Lys Val Glu Val Asn Gln Arg Met Ile Asn Ile Thr  
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 3700 3705 3710

<210> 49  
 <211> 1634  
 <212> PRT  
 <213> Homo sapiens

<400> 49  
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 Pro Trp Asp Pro Ser Ala Ala Ser Val Pro Leu Ala Thr Gly Gly Ser  
 35 40 45  
 Leu Ser Arg Ala Ala Gly Ala Ala Ser Ala Leu Gly Ala Ala Val Thr  
 50 55 60  
 Leu Thr Arg Ala Ala Ala Thr Ala Pro Arg Gly Ser Ala Gly Ser Ala  
 65 70 75 80  
 Ala Thr Pro Ala Ala Ser Ser Ile Arg Cys Leu Phe Gln Ala Gly Leu  
 85 90 95

Trp Ala Thr Ala Ser Thr Val Lys Val Cys Asp His Cys Val Val Leu  
 100 105 110  
 Leu Leu Asp Asp Leu Glu Arg Ala Gly Ala Leu Leu Pro Ala Ile His  
 115 120 125  
 Glu Gln Leu Arg Gly Ile Asn Ala Ser Ser Met Ala Trp Ala Arg Leu  
 130 135 140  
 His Arg Leu Asn Ala Ser Ile Ala Asp Leu Gln Ser Gln Leu Arg Ser  
 145 150 155 160  
 Pro Leu Gly Pro Arg His Glu Thr Ala Gln Gln Leu Glu Val Leu Glu  
 165 170 175  
 Gln Gln Ser Thr Ser Leu Gly Gln Asp Ala Arg Arg Leu Gly Gly Gln  
 180 185 190  
 Ala Val Gly Thr Arg Asp Gln Ala Ser Gln Leu Leu Ala Gly Thr Glu  
 195 200 205  
 Ala Thr Leu Gly His Ala Lys Thr Leu Leu Ala Ala Ile Arg Ala Val  
 210 215 220  
 Asp Arg Thr Leu Ser Glu Leu Met Ser Gln Thr Gly His Leu Gly Leu  
 225 230 235 240  
 Ala Asn Ala Ser Ala Pro Ser Gly Glu Gln Leu Leu Arg Thr Leu Ala  
 245 250 255  
 Glu Val Glu Arg Leu Leu Trp Glu Met Arg Ala Arg Asp Leu Gly Ala  
 260 265 270  
 Pro Gln Ala Ala Ala Glu Ala Glu Leu Ala Ala Ala Gln Arg Leu Leu  
 275 280 285  
 Ala Arg Val Gln Glu Gln Leu Ser Ser Leu Trp Glu Glu Asn Gln Ala  
 290 295 300  
 Leu Ala Thr Gln Thr Arg Asp Arg Leu Ala Gln His Glu Ala Gly Leu  
 305 310 315 320  
 Met Asp Leu Arg Glu Ala Leu Asn Arg Ala Val Asp Ala Thr Arg Glu  
 325 330 335  
 Ala Gln Glu Leu Asn Ser Arg Asn Gln Glu Arg Leu Glu Glu Ala Leu  
 340 345 350  
 Gln Arg Lys Gln Glu Leu Ser Arg Asp Asn Ala Thr Leu Gln Ala Thr  
 355 360 365  
 Leu His Ala Ala Arg Asp Thr Leu Ala Ser Val Phe Arg Leu Leu His  
 370 375 380  
 Ser Leu Asp Gln Ala Lys Glu Glu Leu Glu Arg Leu Ala Ala Ser Leu  
 385 390 395 400

Asp Gly Ala Arg Thr Pro Leu Leu Gln Arg Met Gln Thr Phe Ser Pro  
 405 410 415  
 Ala Gly Ser Lys Leu Arg Leu Val Glu Ala Ala Glu Ala His Ala Gln  
 420 425 430  
 Gln Leu Gly Gln Leu Ala Leu Asn Leu Ser Ser Ile Ile Leu Asp Val  
 435 440 445  
 Asn Gln Asp Arg Leu Thr Gln Arg Ala Ile Glu Ala Ser Asn Ala Tyr  
 450 455 460  
 Ser Arg Ile Leu Gln Ala Val Gln Ala Ala Glu Asp Ala Ala Gly Gln  
 465 470 475 480  
 Ala Leu Gln Gln Ala Asp His Thr Trp Ala Thr Val Val Arg Gln Gly  
 485 490 495  
 Leu Val Asp Arg Ala Gln Gln Leu Leu Ala Asn Ser Thr Ala Leu Glu  
 500 505 510  
 Glu Ala Met Leu Gln Glu Gln Gln Arg Leu Gly Leu Val Trp Ala Ala  
 515 520 525  
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 Gln Leu Glu Ala His Ile Gln Ala Ala Gln Ala Met Leu Ala Met Asp  
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 Thr Asp Glu Thr Ser Lys Lys Ile Ala His Ala Lys Ala Val Ala Ala  
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 Glu Ala Gln Asp Thr Ala Thr Arg Val Gln Ser Gln Leu Gln Ala Met  
 580 585 590  
 Gln Glu Asn Val Glu Arg Trp Gln Gly Gln Tyr Glu Gly Leu Arg Gly  
 595 600 605  
 Gln Asp Leu Gly Gln Ala Val Leu Asp Ala Gly His Ser Val Ser Thr  
 610 615 620  
 Leu Glu Lys Thr Leu Pro Gln Leu Leu Ala Lys Leu Ser Ile Leu Glu  
 625 630 635 640  
 Asn Arg Gly Val His Asn Ala Ser Leu Ala Leu Ser Ala Ser Ile Gly  
 645 650 655  
 Arg Val Arg Glu Leu Ile Ala Gln Ala Arg Gly Ala Ala Ser Lys Val  
 660 665 670  
 Lys Val Pro Met Lys Phe Asn Gly Arg Ser Gly Val Gln Leu Arg Thr  
 675 680 685  
 Pro Arg Asp Leu Ala Asp Leu Ala Ala Tyr Thr Ala Leu Lys Phe Tyr  
 690 695 700

Leu Gln Gly Pro Glu Pro Glu Pro Gly Gln Gly Thr Glu Asp Arg Phe  
 705 710 715 720  
 Val Met Tyr Met Gly Ser Arg Gln Ala Thr Gly Asp Tyr Met Gly Val  
 725 730 735  
 Ser Leu Arg Asp Lys Lys Val His Trp Val Tyr Gln Leu Gly Glu Ala  
 740 745 750  
 Gly Pro Ala Val Leu Ser Ile Asp Glu Asp Ile Gly Glu Gln Phe Ala  
 755 760 765  
 Ala Val Ser Leu Asp Arg Thr Leu Gln Phe Gly His Met Ser Val Thr  
 770 775 780  
 Val Glu Arg Gln Met Ile Gln Glu Thr Lys Gly Asp Thr Val Ala Pro  
 785 790 795 800  
 Gly Ala Glu Gly Leu Leu Asn Leu Arg Pro Asp Asp Phe Val Phe Tyr  
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 Val Gly Gly Tyr Pro Ser Thr Phe Thr Pro Pro Pro Leu Leu Arg Phe  
 820 825 830  
 Pro Gly Tyr Arg Gly Cys Ile Glu Met Asp Thr Leu Asn Glu Glu Val  
 835 840 845  
 Val Ser Leu Tyr Asn Phe Glu Arg Thr Phe Gln Leu Asp Thr Ala Val  
 850 855 860  
 Asp Arg Pro Cys Ala Arg Ser Lys Ser Thr Gly Asp Pro Trp Leu Thr  
 865 870 875 880  
 Asp Gly Ser Tyr Leu Asp Gly Thr Gly Phe Ala Arg Ile Ser Phe Asp  
 885 890 895  
 Ser Gln Ile Ser Thr Thr Lys Arg Phe Glu Gln Glu Leu Arg Leu Val  
 900 905 910  
 Ser Tyr Ser Gly Val Leu Phe Phe Leu Lys Gln Gln Ser Gln Phe Leu  
 915 920 925  
 Cys Leu Ala Val Gln Glu Gly Ser Leu Val Leu Leu Tyr Asp Phe Gly  
 930 935 940  
 Ala Gly Leu Lys Lys Ala Val Pro Leu Gln Pro Pro Pro Pro Leu Thr  
 945 950 955 960  
 Ser Ala Ser Lys Ala Ile Gln Val Phe Leu Leu Gly Gly Ser Arg Lys  
 965 970 975  
 Arg Val Leu Val Arg Val Glu Arg Ala Thr Val Tyr Ser Val Glu Gln  
 980 985 990  
 Asp Asn Asp Leu Glu Leu Ala Asp Ala Tyr Tyr Leu Gly Gly Val Pro  
 995 1000 1005

Pro Asp Gln Leu Pro Pro Ser Leu Arg Arg Leu Phe Pro Thr Gly Gly  
 1010 1015 1020  
 Ser Val Arg Gly Cys Val Lys Gly Ile Lys Ala Leu Gly Lys Tyr Val  
 1025 1030 1035 1040  
 Asp Leu Lys Arg Leu Asn Thr Thr Gly Val Ser Ala Gly Cys Thr Ala  
 1045 1050 1055  
 Asp Leu Leu Val Gly Arg Ala Met Thr Phe His Gly His Gly Phe Leu  
 1060 1065 1070  
 Arg Leu Ala Leu Ser Asn Val Ala Pro Leu Thr Gly Asn Val Tyr Ser  
 1075 1080 1085  
 Gly Phe Gly Phe His Ser Ala Gln Asp Ser Ala Leu Leu Tyr Tyr Arg  
 1090 1095 1100  
 Ala Ser Pro Asp Gly Leu Cys Gln Val Ser Leu Gln Gln Gly Arg Val  
 1105 1110 1115 1120  
 Ser Leu Gln Leu Leu Arg Thr Glu Val Lys Thr Gln Ala Gly Phe Ala  
 1125 1130 1135  
 Asp Gly Ala Pro His Tyr Val Ala Phe Tyr Ser Asn Ala Thr Gly Val  
 1140 1145 1150  
 Trp Leu Tyr Val Asp Asp Gln Leu Gln Gln Met Lys Pro His Arg Gly  
 1155 1160 1165  
 Pro Pro Pro Glu Leu Gln Pro Gln Pro Glu Gly Pro Pro Arg Leu Leu  
 1170 1175 1180  
 Leu Gly Gly Leu Pro Glu Ser Gly Thr Ile Tyr Asn Phe Ser Gly Cys  
 1185 1190 1195 1200  
 Ile Ser Asn Val Phe Val Gln Arg Leu Leu Gly Pro Gln Arg Val Phe  
 1205 1210 1215  
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 1220 1225 1230  
 Pro Ala Leu Gln Ala Gln Thr Pro Gly Leu Gly Pro Arg Gly Leu Gln  
 1235 1240 1245  
 Ala Thr Ala Arg Lys Ala Ser Arg Arg Ser Arg Gln Pro Ala Arg His  
 1250 1255 1260  
 Pro Ala Cys Met Leu Pro Pro His Leu Arg Thr Thr Arg Asp Ser Tyr  
 1265 1270 1275 1280  
 Gln Phe Gly Gly Ser Leu Ser Ser His Leu Glu Phe Val Gly Ile Leu  
 1285 1290 1295  
 Ala Arg His Arg Asn Trp Pro Ser Leu Ser Met His Val Leu Pro Arg  
 1300 1305 1310



Ser Ser Arg Gly Leu Leu Leu Phe Thr Ala Arg Leu Arg Pro Gly Ser  
 1315 1320 1325

Pro Ser Leu Ala Leu Phe Leu Ser Asn Gly His Phe Val Ala Gln Met  
 1330 1335 1340

Glu Gly Leu Gly Thr Arg Leu Arg Ala Gln Ser Arg Gln Arg Ser Arg  
 1345 1350 1355 1360

Pro Gly Arg Trp His Lys Val Ser Val Arg Trp Glu Lys Asn Arg Ile  
 1365 1370 1375

Leu Leu Val Thr Asp Gly Ala Arg Ala Trp Ser Gln Glu Gly Pro His  
 1380 1385 1390

Arg Gln His Gln Gly Ala Glu His Pro Gln Pro His Thr Leu Phe Val  
 1395 1400 1405

Gly Gly Leu Pro Ala Ser Ser His Ser Ser Lys Leu Pro Val Thr Val  
 1410 1415 1420

Gly Phe Ser Gly Cys Val Lys Arg Leu Arg Leu His Gly Arg Pro Leu  
 1425 1430 1435 1440

Gly Ala Pro Thr Arg Met Ala Gly Val Thr Pro Cys Ile Leu Gly Pro  
 1445 1450 1455

Leu Glu Ala Gly Leu Phe Phe Pro Gly Ser Gly Gly Val Ile Thr Leu  
 1460 1465 1470

Asp Leu Pro Gly Ala Thr Leu Pro Asp Val Gly Leu Glu Leu Glu Val  
 1475 1480 1485

Arg Pro Leu Ala Val Thr Gly Leu Ile Phe His Leu Gly Gln Ala Arg  
 1490 1495 1500

Thr Pro Pro Tyr Leu Gln Leu Gln Val Thr Glu Lys Gln Val Leu Leu  
 1505 1510 1515 1520

Arg Ala Asp Asp Gly Ala Gly Glu Phe Ser Thr Ser Val Thr Arg Pro  
 1525 1530 1535

Ser Val Leu Cys Asp Gly Gln Trp His Arg Leu Ala Val Met Lys Ser  
 1540 1545 1550

Gly Asn Val Leu Arg Leu Glu Val Asp Ala Gln Ser Asn His Thr Val  
 1555 1560 1565

Gly Pro Leu Leu Ala Ala Ala Ala Gly Ala Pro Ala Pro Leu Tyr Leu  
 1570 1575 1580

Gly Gly Leu Pro Glu Pro Met Ala Val Gln Pro Trp Pro Pro Ala Tyr  
 1585 1590 1595 1600

Cys Gly Cys Met Arg Arg Leu Ala Val Asn Arg Ser Pro Val Ala Met  
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Thr Arg Ser Val Glu Val His Gly Ala Val Gly Ala Ser Gly Cys Pro  
 1620 1625 1630

Ala Ala

<210> 50  
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 <212> PRT  
 <213> Homo sapiens

<400> 50  
 Ser Gly Val Gln Leu Arg Thr Pro Arg Asp Leu Ala Asp Leu Ala Ala  
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Tyr Thr Ala Leu Lys Phe Tyr Leu Gln Gly Pro Glu Pro Glu Pro Gly  
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Gln Gly Thr Glu Asp Arg Phe Val Met Tyr Met Gly Ser Arg Gln Ala  
 35 40 45

Thr Gly Asp Tyr Met Gly Val Ser Leu Arg Asp Lys Lys Val His Trp  
 50 55 60

Val Tyr Gln Leu Gly Glu Ala Gly Pro Ala Val Leu Ser Ile Asp Glu  
 65 70 75 80

Asp Ile Gly Glu Gln Phe Ala Ala Val Ser Leu Asp Arg Thr Leu Gln  
 85 90 95

Phe Gly His Met Ser Val Thr Val Glu Arg Gln Met Ile Gln Glu Thr  
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Lys Gly Asp Thr Val Ala Pro Gly Ala Glu Gly Leu Leu Asn Leu Arg  
 115 120 125

Pro Asp Asp Phe Val Phe Tyr Val Gly Gly Tyr Pro Ser Thr Phe Thr  
 130 135 140

Pro Pro Pro Leu Leu Arg Phe Pro Gly Tyr Arg Gly Cys Ile Glu Met  
 145 150 155 160

Asp Thr Leu Asn Glu Glu Val Val Ser Leu Tyr Asn Phe Glu Arg Thr  
 165 170 175

Phe Gln Leu Asp Thr Ala Val Asp Arg Pro Cys Ala Arg Ser Lys Ser  
 180 185 190

Thr Gly Asp Pro Trp Leu Thr Asp Gly Ser Tyr Leu Asp Gly Thr Gly  
 195 200 205

Phe Ala Arg Ile Ser Phe Asp Ser Gln Ile Ser Thr Thr Lys Arg Phe  
 210 215 220

Glu Gln Glu Leu Arg Leu Val Ser Tyr Ser Gly Val Leu Phe Phe Leu

225		230		235		240
Lys Gln Gln Ser Gln Phe Leu Cys Leu Ala Val Gln Glu Gly Ser Leu						
		245		250		255
Val Leu Leu Tyr Asp Phe Gly Ala Gly Leu Lys Lys Ala Val Pro Leu						
		260		265		270
Gln Pro Pro Pro Pro Leu Thr Ser Ala Ser Lys Ala Ile Gln Val Phe						
		275		280		285
Leu Leu Gly Gly Ser Arg Lys Arg Val Leu Val Arg Val Glu Arg Ala						
		290		295		300
Thr Val Tyr Ser Val Glu Gln Asp Asn Asp Leu Glu Leu Ala Asp Ala						
		305		310		315
Tyr Tyr Leu Gly Gly Val Pro Pro Asp Gln Leu Pro Pro Ser Leu Arg						
		325		330		335
Trp Leu Phe Pro Thr Gly Gly Ser Val Arg Gly Cys Val Lys Gly Ile						
		340		345		350
Lys Ala Leu Gly Lys Tyr Val Asp Leu Lys Arg Leu Asn Thr Thr Gly						
		355		360		365
Val Ser Ala Gly Cys Thr Ala Asp Leu Leu Val Gly Arg Ala Met Thr						
		370		375		380
Phe His Gly His Gly Phe Leu Arg Leu Ala Leu Ser Asn Val Ala Pro						
		385		390		395
Leu Thr Gly Asn Val Tyr Ser Gly Phe Gly Phe His Ser Ala Gln Asp						
		405		410		415
Ser Ala Leu Leu Tyr Tyr Arg Ala Ser Pro Asp Gly Leu Cys Gln Val						
		420		425		430
Ser Leu Gln Gln Gly Arg Val Ser Leu Gln Leu Leu Arg Thr Glu Val						
		435		440		445
Lys Thr Gln Ala Gly Phe Ala Asp Gly Ala Pro His Tyr Val Ala Phe						
		450		455		460
Tyr Ser Asn Ala Thr Gly Val Trp Leu Tyr Val Asp Asp Gln Leu Gln						
		465		470		475
Gln Met Lys Pro His Arg Gly Pro Pro Pro Glu Leu Gln Pro Gln Pro						
		485		490		495
Glu Gly Pro Pro Arg Leu Leu Leu Gly Gly Leu Pro Glu Ser Gly Thr						
		500		505		510
Ile Tyr Asn Phe Ser Gly Cys Ile Ser Asn Val Phe Val Gln Arg Leu						
		515		520		525
Leu Gly Pro Gln Arg Val Phe Asp Leu Gln Gln Asn Leu Gly Ser Val						

530		535		540
Asn Val Ser Thr Gly Cys Ala Pro Ala Leu Gln Ala Gln Thr Pro Gly				
545		550		555 560
Leu Gly Pro Arg Gly Leu Gln Ala Thr Ala Arg Lys Ala Ser Arg Arg				
	565		570	575
Ser Arg Gln Pro Ala Arg His Pro Ala Cys Met Leu Pro Pro His Leu				
	580		585	590
Arg Thr Thr Arg Asp Ser Tyr Gln Phe Gly Gly Ser Leu Ser Ser His				
	595		600	605
Leu Glu Phe Val Gly Ile Leu Ala Arg His Arg Asn Trp Pro Ser Leu				
	610		615	620
Ser Met His Val Leu Pro Arg Ser Ser Arg Gly Leu Leu Leu Phe Thr				
	625		630	635 640
Ala Arg Leu Arg Pro Gly Ser Pro Ser Leu Ala Leu Phe Leu Ser Asn				
	645		650	655
Gly His Phe Val Ala Gln Met Glu Gly Leu Gly Thr Arg Leu Arg Ala				
	660		665	670
Gln Ser Arg Gln Arg Ser Arg Pro Gly Arg Trp His Lys Val Ser Val				
	675		680	685
Arg Trp Glu Lys Asn Arg Ile Leu Leu Val Thr Asp Gly Ala Arg Ala				
	690		695	700
Trp Ser Gln Glu Gly Pro His Arg Gln His Gln Gly Ala Glu His Pro				
	705		710	715 720
Gln Pro His Thr Leu Phe Val Gly Gly Leu Pro Ala Ser Ser His Ser				
	725		730	735
Ser Lys Leu Pro Val Thr Val Gly Phe Ser Gly Cys Val Lys Arg Leu				
	740		745	750
Arg Leu His Gly Arg Pro Leu Gly Ala Pro Thr Arg Met Ala Gly Val				
	755		760	765
Thr Pro Cys Ile Leu Gly Pro Leu Glu Ala Gly Leu Phe Phe Pro Gly				
	770		775	780
Ser Gly Gly Val Ile Thr Leu Asp Leu Pro Gly Ala Thr Leu Pro Asp				
	785		790	795 800
Val Gly Leu Glu Leu Glu Val Arg Pro Leu Ala Val Thr Gly Leu Ile				
	805		810	815
Phe His Leu Gly Gln Ala Arg Thr Pro Pro Tyr Leu Gln Leu Gln Val				
	820		825	830
Thr Glu Lys Gln Val Leu Leu Arg Ala Asp Asp Gly Ala Gly Glu Phe				

835                      840                      845  
 Ser Thr Ser Val Thr Arg Pro Ser Val Leu Cys Asp Gly Gln Trp His  
     850                      855                      860  
 Arg Leu Ala Val Met Lys Ser Gly Asn Val Leu Arg Leu Glu Val Asp  
     865                      870                      875                      880  
 Ala Gln Ser Asn His Thr Val Gly Pro Leu Leu Ala Ala Ala Ala Gly  
                     885                      890                      895  
 Ala Pro Ala Pro Leu Tyr Leu Gly Gly Leu Pro Glu Pro Met Ala Val  
                     900                      905                      910  
 Gln Pro Trp Pro Pro Ala Tyr Cys Gly Cys Met Arg Arg Leu Ala Val  
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 Asn Arg Ser Pro Val Ala Met Thr Arg Ser Val Glu Val His Gly Ala  
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 Thr Gly Arg Lys Ile Tyr Ala Thr Ala Thr Cys Gly Gln Asp Thr Asp  
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 Gly Pro Glu Leu Tyr Cys Lys Leu Val Gly Ala Asn Thr Glu His Asp  
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 His Ile Asp Tyr Ser Val Ile Gln Gly Gln Val Cys Asp Tyr Cys Asp  
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 Pro Thr Val Pro Glu Arg Asn His Pro Pro Glu Asn Ala Ile Asp Gly  
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 Thr Glu Ala Trp Trp Gln Ser Pro Pro Leu Ser Arg Gly Met Lys Phe  
                     100                      105                      110  
 Asn Glu Val Asn Leu Thr Ile Asn Phe Glu Gln Glu Phe His Val Ala  
                     115                      120                      125  
 Tyr Leu Phe Ile Arg Met Gly Asn Ser Pro Arg Pro Gly Leu Trp Thr  
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Leu Glu Lys Ser Thr Asp Tyr Gly Lys Thr Trp Thr Pro Trp Gln His  
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 Phe Ser Asp Thr Pro Ala Asp Cys Glu Thr Tyr Phe Gly Lys Asp Thr  
 165 170 175  
 Tyr Lys Pro Ile Thr Arg Asp Asp Asp Val Ile Cys Thr Thr Glu Tyr  
 180 185 190  
 Ser Lys Ile Val Pro Leu Glu Asn Gly Glu Ile Pro Val Met Leu Leu  
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 Asn Glu Arg Pro Ser Ser Thr Asn Tyr Phe Asn Ser Thr Val Leu Gln  
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 Glu Trp Thr Arg Ala Thr Asn Val Arg Ile Arg Leu Leu Arg Thr Lys  
 225 230 235 240  
 Asn Leu Leu Gly His Leu Met Ser Val Ala Arg Gln Asp Pro Thr Val  
 245 250 255  
 Thr Arg Arg Tyr Phe Tyr Ser Ile Lys Asp Ile Ser Ile Gly Gly Arg  
 260 265 270  
 Cys Met Cys Asn Gly His Ala Asp Thr Cys Asp Val Lys Asp Pro Lys  
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 Ser Pro Val Arg Ile Leu Ala Cys Arg Cys Gln His His Thr Cys Gly  
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 Ile Gln Cys Asn Glu Cys Cys Pro Gly Phe Glu Gln Lys Lys Trp Arg  
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 Gly His Ser Asn Glu Cys Lys Tyr Asp Glu Glu Val Asn Arg Lys Gly  
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 Glu Thr Gly Asn Cys Glu Cys Arg Ala Ala Phe Gln Pro Pro Ser Cys  
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Glu Cys Asn Leu Asn Gly Thr Asn Gly Tyr His Cys Glu Ala Glu Ser  
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 Gly Gln Gln Cys Pro Cys Lys Ile Asn Phe Ala Gly Ala Tyr Cys Lys  
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 Cys Asn Lys Ile Gly Ser Ile Thr Asn Asp Cys Asn Val Thr Thr Gly  
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 Lys His Gly Tyr Phe Asn Tyr Pro Thr Cys Ser Tyr Cys Asp Cys Asp  
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 Gly Ser Ser Ala Ile Thr Cys Asp Asn Thr Gly Lys Cys Asn Cys Leu  
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 Ser Cys Glu Asp Cys Asn Cys Asp Pro Ala Gly Val Ile Asp Lys Phe  
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 Ala Gly Cys Gly Ser Val Pro Val Gly Glu Leu Cys Lys Cys Lys Glu  
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 Asp Gly Thr Ile Ser Ala Leu Asp Thr Cys Thr Ser Lys Ser Gly Gln  
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Cys Pro Cys Lys Pro His Thr Gln Gly Arg Arg Cys Gln Glu Cys Arg  
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 Asp Gly Thr Phe Asp Leu Asp Ser Ala Ser Leu Phe Gly Cys Lys Asp  
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 Cys Ser Cys Asp Val Gly Gly Ser Trp Gln Ser Val Cys Asp Lys Ile  
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 Gln Pro Leu Thr Thr His Phe Phe Pro Thr Leu His Gln Phe Gln Tyr  
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 Glu Tyr Glu Asp Gly Ser Leu Pro Ser Gly Thr Gln Val Arg Tyr Asp  
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 Tyr Asp Glu Ala Ala Phe Pro Gly Phe Ser Ser Lys Gly Tyr Val Val  
 850 855 860  
 Phe Asn Ala Ile Gln Asn Asp Val Arg Asn Glu Val Asn Val Phe Lys  
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 Ser Ser Leu Tyr Arg Ile Val Leu Arg Tyr Val Asn Pro Asn Ala Glu  
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 Asn Val Thr Ala Thr Ile Ser Val Thr Ser Asp Asn Pro Leu Glu Val  
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 Cys Arg His Tyr Lys Tyr Ala Ser Val Glu Val Phe Ser Pro Ala Ala  
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 Thr Tyr Thr Asp Pro Glu His Leu Gln Ile Val Ser His Val Gly Asp  
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Val Pro Arg Ser Gly Arg Tyr Ile Phe Val Ile Asp Tyr Ile Ser Asp  
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Arg Asn Phe Pro Asp Ser Tyr Tyr Ile Asn Leu Lys Leu Lys Asp Asn  
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Pro Asp Ser Glu Thr Ser Val Leu Leu Tyr Pro Cys Leu Tyr Ser Thr  
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 Gly Lys Thr Ser Arg Cys Asp Ser Ala Tyr Leu Arg Val Tyr Asn Val  
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 Ser Ile Lys Phe Asp Met Trp Pro Val Pro Ala Asp Glu Ile Leu Leu  
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 Glu Arg Pro Ala Tyr Phe Gly Val Leu Asp Tyr Leu Leu Asn Gln Asn  
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Thr Ser Gly Phe Asp Gly Lys Tyr Ile Val Ala Pro Asp Val Ile Leu  
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Phe Ser Glu His Asn Ala Leu Val His Thr Ser Tyr Glu Gln Pro Ser  
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Arg Asn Glu Pro Phe Thr Asn Arg Val Asn Ile Val Glu Ser Asn Phe  
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Gln Thr Ile Ser Gly Lys Pro Val Ser Arg Ala Asp Phe Met Met Val  
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Leu Arg Asp Leu Lys Val Ile Phe Ile Arg Ala Asn Tyr Trp Glu Gln  
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Thr Leu Val Thr His Leu Ser Asp Val Tyr Leu Thr Leu Ala Asp Glu  
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Asp Ala Asp Gly Thr Gly Glu Tyr Gln Phe Leu Ala Val Glu Arg Cys  
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Ser Cys Pro Pro Gly Tyr Ser Gly His Ser Cys Glu Asp Cys Ala Pro  
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Gly Tyr Tyr Arg Asp Pro Ser Gly Pro Tyr Gly Gly Tyr Cys Ile Pro  
 1795 1800 1805

Cys Glu Cys Asn Gly His Ser Glu Thr Cys Asp Cys Ala Thr Gly Ile  
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Cys Ser Lys Cys Gln His Gly Thr Glu Gly Asp His Cys Glu Arg Cys  
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Val Ser Gly Tyr Tyr Gly Asn Ala Thr Asn Gly Thr Pro Gly Asp Cys  
 1845 1850 1855

Met Ile Cys Ala Cys Pro Leu Pro Phe Asp Ser Asn Asn Phe Ala Thr  
 1860 1865 1870

Ser Cys Glu Ile Ser Glu Ser Gly Asp Gln Ile His Cys Glu Cys Lys  
 1875 1880 1885

Pro Gly Tyr Thr Gly Pro Arg Cys Glu Ser Cys Ala Asn Gly Phe Tyr  
 1890 1895 1900

Gly Glu Pro Glu Ser Ile Gly Gln Val Cys Lys Pro Cys Glu Cys Ser  
 1905 1910 1915 1920

Gly Asn Ile Asn Pro Glu Asp Gln Gly Ser Cys Asp Thr Arg Thr Gly  
 1925 1930 1935

Glu Cys Leu Arg Cys Leu Asn Asn Thr Phe Gly Ala Ala Cys Asn Leu  
 1940 1945 1950

Cys Ala Pro Gly Phe Tyr Gly Asp Ala Ile Lys Leu Lys Asn Cys Gln  
 1955 1960 1965

Ser Cys Asp Cys Asp Asp Leu Gly Thr Gln Thr Cys Asp Pro Phe Val  
 1970 1975 1980

Gly Val Cys Thr Cys His Glu Asn Val Ile Gly Asp Arg Cys Asp Arg  
 1985 1990 1995 2000

Cys Lys Pro Asp His Tyr Gly Phe Glu Ser Gly Val Gly Cys Arg Ala  
 2005 2010 2015

Cys Asp Cys Gly Ala Ala Ser Asn Ser Thr Gln Cys Asp Pro His Thr  
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Gly His Cys Ala Cys Lys Ser Gly Val Thr Gly Arg Gln Cys Asp Arg  
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Cys Ala Val Asp His Trp Lys Tyr Glu Lys Asp Gly Cys Thr Pro Cys  
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Asn Cys Asn Gln Gly Tyr Ser Arg Gly Phe Gly Cys Asn Pro Asn Thr  
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Gly Lys Cys Gln Cys Leu Pro Gly Val Ile Gly Asp Arg Cys Asp Ala  
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Cys Pro Asn Arg Trp Val Leu Ile Lys Asp Glu Gly Cys Gln Glu Cys  
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Phe Thr Ser Gln Lys Leu Asn Tyr Tyr Asp Gln Leu Ala Asp Glu Leu  
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Glu Pro Lys Val Lys Leu Leu Asp Pro Asn Ser Val Asp Leu Ser Pro  
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Lys Gln Val Asn Gln Thr Leu Ala Asn Ala Phe Asp Ile Arg Glu Arg  
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Lys Ser Ala Asp Gln Ala Lys Glu Ala Ile Ala Ser Val Glu Ala Leu  
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Ser Lys Asn Leu Glu Ala Ala Ala Ser Thr Lys Ile Asp Ala Ala Leu  
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Glu Gln Ala Gln His Ile Leu Gly Gln Ile Asn Gly Thr Ser Ile Glu  
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Leu Thr Pro Asn Glu Gln Val Leu Glu Lys Ala Arg Lys Leu Tyr Glu  
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Glu Val Asn Thr Leu Val Leu Pro Ile Lys Ala Gln Asn Lys Ser Leu  
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Asn Ala Leu Lys Asn Asp Ile Gly Glu Phe Ser Asp His Leu Glu Asp  
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Leu Phe Asn Trp Ser Glu Ala Ser Gln Ala Lys Ser Ala Asp Val Glu  
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Arg Arg Asn Val Ala Asn Gln Lys Ala Phe Asp Asn Ser Lys Phe Asp  
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Thr Val Ser Glu Gln Lys Leu Gln Ala Glu Lys Asn Ile Lys Asp Ala  
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Gly Asn Phe Leu Ile Asn Gly Asp Leu Thr Leu Asn Gln Ile Asn Gln  
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Lys Leu Asp Asn Leu Arg Asp Ala Leu Asn Glu Leu Asn Ser Phe Asn  
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Lys Asn Val Asp Glu Glu Leu Pro Val Arg Glu Asp Gln His Lys Glu  
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Ala Asp Ala Leu Thr Asp Gln Ala Glu Gln Lys Ala Ala Glu Leu Ala  
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Ile Lys Ala Gln Asp Leu Ala Ala Gln Tyr Thr Asp Met Thr Ala Ser  
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Ala Glu Pro Ala Ile Lys Ala Ala Thr Ala Tyr Ser Gly Ile Val Glu  
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Ala Val Glu Ala Ala Gln Lys Leu Ser Gln Asp Ala Ile Ser Ala Ala  
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Gly Asn Ala Thr Asp Lys Thr Asp Gly Ile Glu Glu Arg Ala His Leu  
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Ala Asp Thr Gly Ser Thr Asp Leu Leu Gln Arg Ala Arg Gln Ser Leu  
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Gln Lys Val Gln Asp Asp Leu Glu Pro Arg Leu Asn Ala Ser Ala Gly  
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Lys Val Gln Lys Ile Ser Ala Val Asn Asn Ala Thr Glu His Gln Leu  
 2530 2535 2540

Lys Asp Ile Asn Lys Leu Ile Asp Gln Leu Pro Ala Glu Ser Gln Arg  
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Asp Met Trp Lys Asn Ser Asn Ala Asn Ala Ser Asp Ala Leu Glu Ile  
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Leu Lys Asn Val Leu Glu Ile Leu Glu Pro Val Ser Val Gln Thr Pro  
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Lys Glu Leu Glu Lys Ala His Gly Ile Asn Arg Asp Leu Asp Leu Thr  
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Ser Val Ser Lys Leu Ser Glu Leu Ala Glu Asp Ile Glu Glu Gln Gln  
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His Arg Val Gly Ser Gln Ser Arg Gln Leu Gly Gln Glu Ile Glu Asn  
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Leu Lys Ala Gln Val Glu Ala Ala Arg Gln Leu Ala Asn Ser Ile Lys  
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Val Gly Val Asn Phe Lys Pro Ser Thr Ile Leu Glu Leu Lys Thr Pro  
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Glu Lys Thr Lys Leu Leu Ala Thr Arg Thr Asn Leu Ser Thr Tyr Phe  
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Arg Thr Thr Glu Pro Ser Gly Phe Leu Leu Tyr Leu Gly Asn Asp Asn  
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Lys Thr Ala Gln Lys Asn Asn Asp Phe Val Ala Val Glu Ile Val Asn  
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Gly Tyr Pro Ile Leu Thr Ile Asp Leu Gly Asn Gly Pro Glu Arg Ile  
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Thr Ser Asp Lys Tyr Val Ala Asp Gly Arg Trp Tyr Gln Ala Val Val  
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Asp Arg Met Gly Pro Asn Ala Lys Leu Thr Ile Arg Glu Glu Leu Pro  
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Asn Gly Asp Val Val Glu His Ser Lys Ser Gly Tyr Leu Glu Gly Ser  
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Gln Asn Ile Leu His Val Asp Lys Asn Ser Arg Leu Phe Val Gly Gly  
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Tyr Pro Gly Ile Ser Asp Phe Asn Ala Pro Pro Asp Leu Thr Thr Asn  
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Pro	Trp	Ser	Asn	Ala	Asp	Thr	Leu	Pro	Pro	Leu	Lys	Pro	Asp	Ile	Glu
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Pro	Ser	Pro	Ile	Val	Ile	Asp	Glu	Glu	Lys	Glu	Ile	Glu	Ala	Lys	Thr
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Pro	Gln	Lys	Ile	Leu	Thr	Thr	Arg	Pro	Pro	Ala	Lys	Leu	Asn	Leu	Pro
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Ser	Asp	Glu	Arg	Cys	Lys	Leu	Pro	Glu	Gln	Pro	Asn	Phe	Asp	Val	Asp
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Phe	Thr	Glu	Ala	Gly	Tyr	Arg	Phe	Tyr	Gly	Leu	Arg	Glu	Gln	Arg	Leu
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Gln	Ile	Asn	Ser	Leu	Pro	Val	Lys	Val	Arg	His	His	Asp	Ile	Gly	
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Ile	Ser	Phe	Arg	Thr	Glu	Arg	Pro	Asn	Gly	Leu	Leu	Ile	Tyr	Ala	Gly
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Arg	Thr	Gln	Arg	Lys	Val	Ser	Leu	Leu	Ile	Asp	Lys	Leu	Glu	Gln	Pro
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Glu	Leu	Pro	Ile	Tyr	Leu	Gly	Gly	Val	Asn	Lys	Phe	Leu	Glu	Ser	Glu
		3475					3480					3485			



Val Lys Asn Leu Thr Asp Phe Lys Thr Glu Val Pro Tyr Phe Asn Gly  
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 Cys Leu Lys Asn Ile Lys Phe Asp Ala Met Asp Leu Glu Thr Pro Pro  
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 Glu Glu Phe Gly Val Val Pro Cys Ser Glu Gln Val Glu Arg Gly Leu  
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 Phe Phe Asn Asn Gln Lys Ala Phe Val Lys Ile Phe Asp His Phe Asp  
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 Gly Ser Val Ile Thr Arg Thr Asn Arg Pro Leu Phe Leu Gly Gly His  
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 Gly Cys Ile Ser Lys Val Glu Val Asn Gln Arg Met Ile Asn Ile Thr  
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 N-terminal domain Consensus Sequence

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1	5	10	15
Gly Arg Pro Val Thr Ala Ser Ser Thr Cys Gly Glu Gln Gly Pro Glu	20	25	30
Arg Tyr Cys Lys Leu Val Gly Arg Thr Glu Gln Gly Lys Lys Cys Asp	35	40	45
Tyr Cys Asp Ala Arg Asp Pro Arg Arg Ser His Pro Ala Glu Asn Leu	50	55	60
Thr Asp Gly Asn Asn Pro Gly Asn Pro Thr Trp Trp Gln Ser Glu Pro	65	70	75
Leu Ser Asn Gly Pro Gln Asn Val Asn Leu Thr Leu Asp Leu Gly Lys	85	90	95
Glu Phe His Leu Thr Tyr Val Ile Leu Lys Phe Cys Ser Pro Arg Pro	100	105	110
Ser Leu Ala Ile Leu Glu Arg Ser Asp Phe Gly Lys Thr Trp Gln Pro	115	120	125
Tyr Gln Tyr Phe Ser Ser Asp Cys Arg Arg Thr Phe Gly Arg Pro Pro	130	135	140
Arg Gly Pro Ile Thr Lys Gly Asn Glu Gln Glu Val Leu Cys Thr Ser	145	150	155
Glu Tyr Ser Asp Ile Val Pro Leu Glu Gly Gly Glu Ile Ala Phe Ser	165	170	175
Thr Leu Glu Gly Arg Pro Ser Ala Thr Asp Phe Asp Asn Ser Pro Val	180	185	190
Leu Gln Glu Trp Val Thr Ala Thr Asn Ile Arg Val Arg Leu Thr Arg	195	200	205
Leu Asn Thr Leu Gly Asp Asp Leu Met Asp Lys Arg Asp Pro Glu Val	210	215	220
Thr Arg Ser Tyr Tyr Tyr Ala Ile Ser Asp Ile Ala Val Gly Gly	225	230	235

<210> 53  
 <211> 237  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Laminin  
 N-Terminal Domain Consensus Sequence

<400> 53
Cys Tyr Pro Ala Thr Gly Asn Leu Ala Ile Gly Arg Ala Leu Ser Ala
1 5 10 15

Thr Ser Thr Cys Gly Leu His Ser Pro Glu Pro Tyr Cys Ile Leu Ser  
                   20                  25                  30  
 His Leu Gln Pro Arg Asp Lys Lys Cys Phe Leu Cys Asp Ser Asn Ser  
           35                  40                  45  
 Pro Asn Pro Arg Asn Ser His Pro Ile Ser Phe Leu Thr Asp Thr Phe  
       50                  55                  60  
 Asn Pro Gln Ser Pro Thr Trp Trp Gln Ser Glu Thr Met Gln Asn Gly  
   65                  70                  75                  80  
 Val Gln Tyr Pro Asn Val Thr Ile Thr Leu Asp Leu Glu Ala Glu Phe  
                   85                  90                  95  
 His Phe Thr Tyr Val Ile Ile Thr Phe Lys Thr Phe Arg Pro Ala Ala  
           100                  105                  110  
 Met Ile Tyr Glu Arg Ser Ser Asp Phe Gly Thr Trp Ile Pro Tyr Gln  
       115                  120                  125  
 Tyr Tyr Ala Tyr Asp Cys Glu Ala Thr Tyr Pro Gly Ile Pro Arg Arg  
   130                  135                  140  
 Pro Ile Arg Thr Gly Arg Ala Glu Asp Asp Val Leu Cys Thr Ser Arg  
   145                  150                  155                  160  
 Tyr Ser Asp Ile Glu Pro Leu Thr Glu Gly Glu Val Ile Phe Ser Thr  
           165                  170                  175  
 Leu Glu Gly Arg Pro Ser Ala Asp Asn Phe Asp Pro Ser Pro Arg Leu  
       180                  185                  190  
 Gln Glu Trp Leu Lys Ala Thr Asn Ile Arg Ile Thr Leu Thr Arg Leu  
   195                  200                  205  
 His Thr Leu Gly Asp Asn Leu Leu Asp Ser Asp Pro Glu Val Leu Glu  
   210                  215                  220  
 Lys Tyr Tyr Tyr Ala Ile Ser Asp Ile Val Val Gly Gly  
   225                  230                  235

<210> 54  
 <211> 127  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Laminin B  
       Domain Consensus Sequence

<400> 54  
 Asp Asn Glu Pro Val Tyr Trp Val Ala Pro Glu Gln Phe Leu Gly Asp  
   1                  5                  10                  15

Lys Val Thr Ser Tyr Gly Gly Lys Leu Arg Tyr Thr Leu Ser Phe Asp  
                   20                                  25                                  30  
 Gly Arg Glu Gly Gly Thr Thr Leu Ser Ala Pro Asp Val Ile Leu Glu  
                   35                                  40                                  45  
 Gly Asn Gly Leu Arg Leu Ser His Pro Ala Gln Gly Pro Pro Leu Pro  
                   50                                  55                                  60  
 Asp Glu Glu Thr Thr Asn Glu Val Arg Phe Arg Glu Glu Asn Trp Gln  
                   65                                  70                                  75                                  80  
 Tyr Phe Gly Gly Arg Pro Val Thr Arg Glu Asp Leu Met Met Val Leu  
                                   85                                  90                                  95  
 Ala Asn Leu Thr Ala Ile Leu Ile Arg Ala Thr Tyr Ser Glu Gln Gln  
                                   100                                  105                                  110  
 Leu Ala Ser Arg Leu Ser Asp Val Ser Leu Glu Val Ala Val Pro  
                   115                                  120                                  125

<210> 55  
 <211> 135  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Laminin B  
           domain Consensus Sequence

<400> 55  
 Tyr Trp Arg Leu Pro Glu Arg Phe Leu Gly Asp Gln Val Thr Ser Tyr  
   1                                  5                                  10                                  15  
 Gly Gly Lys Leu Lys Tyr Ser Val Ala Phe Asp Gly Val Gly Thr Ser  
                   20                                  25                                  30  
 Asn Ser Glu Pro Asp Val Ile Leu Lys Gly Asn Gly Leu Arg Leu Ser  
                   35                                  40                                  45  
 Val Pro Tyr Met Ala Gln Gly Asn Ser Tyr Pro Ser Glu Val Arg Val  
                   50                                  55                                  60  
 Lys Tyr Thr Val Arg Leu His Glu Thr Phe Trp Asp Phe Gln Ser Gln  
                   65                                  70                                  75                                  80  
 Pro Ala Val Thr Arg Glu Asp Phe Leu Ser Val Leu Ala Asn Leu Thr  
                                   85                                  90                                  95  
 Ala Ile Leu Ile Arg Ala Thr Tyr Ser Ala Gly Gln Ala Gln Ser Arg  
                   100                                  105                                  110  
 Leu Asp Asp Val Ser Leu Glu Ile Ala Arg Pro Gly Ala Ala Gly Pro  
                   115                                  120                                  125  
 Val Pro Ala Thr Trp Val Glu

130

135

&lt;210&gt; 56

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Laminin G  
Domain Consensus Sequence

&lt;400&gt; 56

Thr	Arg	Leu	Ser	Ile	Ser	Phe	Ser	Phe	Arg	Thr	Thr	Ser	Pro	Asn	Gly
1				5					10					15	

Leu	Leu	Leu	Tyr	Ala	Gly	Ser	Lys	Gly	Gly	Gly	Asp	Phe	Leu	Ala	Leu
			20					25					30		

Glu	Leu	Arg	Asp	Gly	Arg	Leu	Val	Leu	Arg	Tyr	Asp	Leu	Gly	Ser	Gly
		35				40					45				

Pro	Ala	Arg	Leu	Thr	Ser	Asp	Pro	Thr	Pro	Leu	Asn	Asp	Gly	Gln	Trp
	50					55					60				

His	Arg	Val	Ser	Val	Glu	Arg	Asn	Gly	Arg	Arg	Val	Thr	Leu	Ser	Val
65					70				75						80

Asp	Gly	Gly	Asn	Arg	Val	Ser	Gly	Glu	Ser	Pro	Gly	Gly	Ser	Thr	Ile
			85					90					95		

Leu	Asp	Leu	Asp	Gly	Pro	Leu	Tyr	Leu	Gly	Gly	Leu	Pro	Glu	Asp	Leu
			100					105					110		

Lys	Leu	Pro	Gly	Leu	Pro	Val	Thr	Pro	Gly	Phe	Arg	Gly	Cys	Ile	Arg
		115				120						125			

Asn	Leu	Lys	Val	Asn	Gly	Lys
130						135

&lt;210&gt; 57

&lt;211&gt; 49

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Laminin  
EGF-like Consensus Sequence

&lt;400&gt; 57

Cys	Asp	Cys	Asn	Pro	His	Gly	Ser	Leu	Ser	Asp	Thr	Cys	Asp	Pro	Glu
1				5					10					15	

Thr	Gly	Gln	Cys	Leu	Cys	Lys	Pro	Gly	Val	Thr	Gly	Arg	Arg	Cys	Asp
		20						25					30		

Arg Cys Lys Pro Gly Tyr Tyr Gly Leu Pro Ser Asp Pro Gly Gln Gly  
35 40 45

Cys

<210> 58

<211> 47

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Laiminin  
EGF-like Consensus Sequence

<400> 58

Cys Asp Cys Asp Pro Gly Gly Ser Ala Ser Thr Cys Asp Pro Glu Thr  
1 5 10 15

Gly Gln Cys Glu Cys Lys Pro Asn Thr Thr Gly Arg Arg Cys Asp Arg  
20 25 30

Cys Ala Pro Gly Tyr Tyr Gly Leu Pro Glu Ser Pro Pro Gly Cys  
35 40 45

<210> 59

<211> 860

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mysosin Tail  
Consensus Sequence

<400> 59

Glu Leu Glu Arg Gln Lys Arg Glu Leu Glu Asn Gln Leu Tyr Arg Lys  
1 5 10 15

Glu Ser Glu Leu Ser Gln Leu Ser Ser Lys Leu Glu Asp Glu Gln Ala  
20 25 30

Leu Val Ala Gln Leu Gln Lys Lys Ile Lys Glu Leu Glu Ala Arg Ile  
35 40 45

Arg Glu Leu Glu Glu Glu Leu Glu Ala Glu Arg Ala Ala Arg Ala Lys  
50 55 60

Ala Glu Lys Ala Arg Ala Asp Leu Ser Arg Glu Leu Glu Glu Leu Ser  
65 70 75 80

Glu Arg Leu Glu Glu Ala Gly Gly Ala Thr Ala Ala Gln Ile Glu Leu  
85 90 95

Asn Lys Lys Arg Glu Ala Glu Leu Ala Lys Leu Arg Lys Asp Leu Glu  
100 105 110

Glu Ala Asn Leu Gln His Glu Glu Ala Leu Ala Thr Leu Arg Lys Lys  
 115 120 125  
 His Gln Asp Ala Ile Asn Glu Leu Ser Glu Gln Ile Glu Gln Leu Gln  
 130 135 140  
 Lys Gln Lys Ala Lys Ala Glu Lys Glu Lys Ser Gln Leu Gln Ala Glu  
 145 150 155 160  
 Val Asp Asp Leu Leu Ala Gln Leu Asp Ser Ile Thr Lys Ala Lys Leu  
 165 170 175  
 Asn Ala Glu Lys Lys Ala Lys Gln Leu Glu Ser Gln Leu Ser Glu Leu  
 180 185 190  
 Gln Val Lys Leu Asp Glu Leu Gln Arg Gln Leu Asn Asp Leu Thr Ser  
 195 200 205  
 Gln Lys Ser Arg Leu Gln Ser Glu Asn Ser Asp Leu Thr Arg Gln Leu  
 210 215 220  
 Glu Glu Ala Glu Ala Gln Val Ser Asn Leu Ser Lys Leu Lys Ser Gln  
 225 230 235 240  
 Leu Glu Ser Gln Leu Glu Glu Ala Lys Arg Ser Leu Glu Glu Glu Ser  
 245 250 255  
 Arg Glu Arg Ala Asn Leu Gln Ala Gln Leu Arg Gln Leu Glu His Asp  
 260 265 270  
 Leu Asp Ser Leu Arg Glu Gln Leu Glu Glu Glu Ser Glu Ala Lys Ala  
 275 280 285  
 Glu Leu Glu Arg Gln Leu Ser Lys Ala Asn Ala Glu Ile Gln Gln Trp  
 290 295 300  
 Arg Ser Lys Phe Glu Ser Glu Gly Ala Leu Arg Ala Glu Glu Leu Glu  
 305 310 315 320  
 Glu Leu Lys Lys Lys Leu Asn Gln Lys Ile Ser Glu Leu Glu Glu Ala  
 325 330 335  
 Ala Glu Ala Ala Asn Ala Lys Cys Asp Ser Leu Glu Lys Thr Lys Ser  
 340 345 350  
 Arg Leu Gln Ser Glu Leu Glu Asp Leu Gln Ile Glu Leu Glu Arg Ala  
 355 360 365  
 Asn Ala Ala Ala Ser Glu Leu Glu Lys Lys Gln Lys Asn Phe Asp Lys  
 370 375 380  
 Ile Leu Ala Glu Trp Lys Arg Lys Val Asp Glu Leu Gln Ala Glu Leu  
 385 390 395 400  
 Asp Thr Ala Gln Arg Glu Ala Arg Asn Leu Ser Thr Glu Leu Phe Arg  
 405 410 415

Leu Lys Asn Glu Leu Glu Glu Leu Lys Asp Gln Val Glu Ala Leu Arg  
 420 425 430  
 Arg Glu Asn Lys Asn Leu Gln Asp Glu Ile His Asp Leu Thr Asp Gln  
 435 440 445  
 Leu Gly Glu Gly Gly Arg Asn Val His Glu Leu Glu Lys Ala Arg Arg  
 450 455 460  
 Arg Leu Glu Ala Glu Lys Asp Glu Leu Gln Ala Ala Leu Glu Glu Ala  
 465 470 475 480  
 Glu Ala Ala Leu Glu Leu Glu Glu Ser Lys Val Leu Arg Ala Gln Val  
 485 490 495  
 Glu Leu Ser Gln Ile Arg Ser Glu Ile Glu Arg Arg Leu Ala Glu Lys  
 500 505 510  
 Glu Glu Glu Phe Glu Asn Thr Arg Lys Asn His Gln Arg Ala Ile Glu  
 515 520 525  
 Ser Leu Gln Ala Thr Leu Glu Ala Glu Thr Lys Gly Lys Ala Glu Ala  
 530 535 540  
 Ser Arg Leu Lys Lys Lys Leu Glu Gly Asp Ile Asn Glu Leu Glu Ile  
 545 550 555 560  
 Ala Leu Asp His Ala Asn Lys Ala Asn Ala Glu Ala Gln Lys Asn Val  
 565 570 575  
 Lys Lys Tyr Gln Gln Gln Val Lys Glu Leu Gln Thr Gln Val Glu Glu  
 580 585 590  
 Glu Gln Arg Ala Arg Glu Asp Ala Arg Glu Gln Leu Ala Val Ala Glu  
 595 600 605  
 Arg Arg Ala Thr Ala Leu Glu Ala Glu Leu Glu Glu Leu Arg Ser Ala  
 610 615 620  
 Leu Glu Gln Ala Glu Arg Ala Arg Lys Gln Ala Glu Thr Glu Leu Ala  
 625 630 635 640  
 Glu Ala Ser Glu Arg Val Asn Glu Leu Thr Ala Gln Asn Ser Ser Leu  
 645 650 655  
 Ile Ala Gln Lys Arg Lys Leu Glu Gly Glu Leu Ala Ala Leu Gln Ser  
 660 665 670  
 Asp Leu Asp Glu Ala Val Asn Glu Leu Lys Ala Ala Glu Glu Arg Ala  
 675 680 685  
 Lys Lys Ala Gln Ala Asp Ala Ala Arg Leu Ala Glu Glu Leu Arg Gln  
 690 695 700  
 Glu Gln Glu His Ser Gln His Leu Glu Arg Leu Arg Lys Gln Leu Glu  
 705 710 715 720



Ser Gln Val Lys Glu Leu Gln Val Arg Leu Asp Glu Ala Glu Ala Ala  
                     725                    730                    735  
 Ala Leu Lys Gly Gly Lys Lys Met Ile Gln Lys Leu Glu Ala Arg Val  
                     740                    745                    750  
 Arg Glu Leu Glu Ala Glu Leu Asp Gly Glu Gln Arg Arg His Ala Glu  
                     755                    760                    765  
 Thr Gln Lys Asn Leu Arg Lys Met Glu Arg Arg Val Lys Glu Leu Gln  
                     770                    775                    780  
 Phe Gln Val Glu Glu Asp Lys Lys Asn Leu Glu Arg Leu Gln Asp Leu  
 785                    790                    795                    800  
 Val Asp Lys Leu Gln Ala Lys Ile Lys Thr Tyr Lys Arg Gln Leu Glu  
                     805                    810                    815  
 Glu Ala Glu Glu Val Ala Gln Ile Asn Leu Ser Lys Tyr Arg Lys Ala  
                     820                    825                    830  
 Gln Arg Glu Leu Glu Asp Ala Glu Glu Arg Ala Asp Thr Ala Glu Arg  
                     835                    840                    845  
 Ser Leu Asn Lys Leu Arg Ala Lys Ser Arg Arg Thr  
                     850                    855                    860

<210> 60

<211> 134

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Laiminin G  
domain Consensus Sequence

<400> 60

Phe Arg Thr Thr Glu Pro Ser Gly Leu Leu Leu Tyr Gly Gly Thr Asn  
   1                    5                    10                    15  
 Thr Asp Arg Asp Phe Leu Ala Leu Glu Leu Arg Asp Gly Arg Leu Glu  
                     20                    25                    30  
 Val Ser Tyr Asp Leu Gly Ser Gly Pro Ala Val Val Arg Ser Gly Asp  
                     35                    40                    45  
 Arg Leu Asn Asp Gly Lys Trp His Arg Val Glu Leu Glu Arg Asn Gly  
                     50                    55                    60  
 Arg Lys Gly Thr Leu Ser Val Asp Gly Glu Glu Ser Val Asp Gly Glu  
                     65                    70                    75                    80  
 Ser Pro Ser Gly Pro Asp Val Pro His Glu Asn Leu Asp Leu Asp Thr  
                     85                    90                    95

Pro Leu Tyr Val Gly Gly Leu Pro Glu Leu Ser Val Lys Arg Leu Leu  
 100 105 110

Ala Ala Ile Ser Thr Ser Phe Lys Gly Cys Ile Arg Asp Val Ile Val  
 115 120 125

Asn Gly Lys Pro Leu Asp  
 130

<210> 61  
 <211> 391  
 <212> PRT  
 <213> Homo sapiens

<400> 61  
 Met Asp Ser Leu Gly Ala Val Ser Thr Arg Leu Gly Phe Asp Leu Phe  
 1 5 10 15

Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val  
 20 25 30

Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala  
 35 40 45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys  
 50 55 60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Ile Glu Asn Thr Glu  
 65 70 75 80

Ala Val His Gln Gln Phe Gln Lys Phe Leu Thr Glu Ile Ser Lys Leu  
 85 90 95

Thr Asn Asp Tyr Glu Leu Asn Ile Thr Asn Arg Leu Phe Gly Glu Lys  
 100 105 110

Thr Tyr Leu Phe Leu Gln Lys Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr  
 115 120 125

His Ala Ser Leu Glu Pro Val Asp Phe Val Asn Ala Ala Asp Glu Ser  
 130 135 140

Arg Lys Lys Ile Asn Ser Trp Val Glu Ser Lys Thr Asn Glu Lys Ile  
 145 150 155 160

Lys Asp Leu Phe Pro Asp Gly Ser Ile Ser Ser Ser Thr Lys Leu Val  
 165 170 175

Leu Val Asn Met Val Tyr Phe Lys Gly Gln Trp Asp Arg Glu Phe Lys  
 180 185 190

Lys Glu Asn Thr Lys Glu Glu Lys Phe Trp Met Asn Lys Ser Thr Ser  
 195 200 205

Lys Ser Val Gln Met Met Thr Gln Ser His Ser Phe Ser Phe Thr Phe  
 210 215 220

Leu Glu Asp Leu Gln Ala Lys Ile Leu Gly Ile Pro Tyr Lys Asn Asn  
 225 230 235 240  
 Asp Leu Ser Met Phe Val Leu Leu Pro Asn Asp Ile Asp Gly Leu Glu  
 245 250 255  
 Lys Ile Ile Asp Lys Ile Ser Pro Glu Lys Leu Val Glu Trp Thr Ser  
 260 265 270  
 Pro Gly His Met Glu Glu Arg Lys Val Asn Leu His Leu Pro Arg Phe  
 275 280 285  
 Glu Val Glu Asp Gly Tyr Asp Leu Glu Ala Val Leu Ala Ala Met Gly  
 290 295 300  
 Met Gly Asp Ala Phe Ser Glu His Lys Ala Asp Tyr Ser Gly Met Ser  
 305 310 315 320  
 Ser Gly Ser Gly Leu Tyr Ala Gln Lys Phe Leu His Ser Ser Phe Val  
 325 330 335  
 Ala Val Thr Glu Glu Gly Thr Glu Ala Ala Ala Thr Gly Ile Gly  
 340 345 350  
 Phe Thr Val Thr Ser Ala Pro Gly His Glu Asn Val His Cys Asn His  
 355 360 365  
 Pro Phe Leu Phe Phe Ile Arg His Asn Glu Ser Asn Ser Ile Leu Phe  
 370 375 380  
 Phe Gly Arg Phe Ser Ser Pro  
 385 390

<210> 62  
 <211> 390  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
 Met Asp Ser Leu Gly Ala Val Ser Thr Arg Leu Gly Phe Asp Leu Phe  
 1 5 10 15  
 Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val  
 20 25 30  
 Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala  
 35 40 45  
 Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys  
 50 55 60  
 Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Ile Glu Asn Thr Glu Ala  
 65 70 75 80  
 Val His Gln Gln Phe Gln Lys Phe Leu Thr Glu Ile Ser Lys Leu Thr

85								90					95			
Asn	Asp	Tyr	Glu	Leu	Asn	Ile	Thr	Asn	Arg	Leu	Phe	Gly	Glu	Lys	Thr	
			100					105					110			
Tyr	Leu	Phe	Leu	Gln	Lys	Tyr	Leu	Asp	Tyr	Val	Glu	Lys	Tyr	Tyr	His	
			115				120					125				
Ala	Ser	Leu	Glu	Pro	Val	Asp	Phe	Val	Asn	Ala	Ala	Asp	Glu	Ser	Arg	
			130				135				140					
Lys	Lys	Ile	Asn	Ser	Trp	Val	Glu	Ser	Lys	Thr	Asn	Glu	Lys	Ile	Lys	
145				150						155						
Asp	Leu	Phe	Pro	Asp	Gly	Ser	Ile	Ser	Ser	Ser	Thr	Lys	Leu	Val	Leu	
			165						170							
Val	Asn	Met	Val	Tyr	Phe	Lys	Gly	Gln	Trp	Asp	Arg	Glu	Phe	Lys	Lys	
			180						185							
Glu	Asn	Thr	Lys	Glu	Glu	Lys	Phe	Trp	Met	Asn	Lys	Ser	Thr	Ser	Lys	
			195						200							
Ser	Val	Gln	Met	Met	Thr	Gln	Ser	His	Ser	Phe	Ser	Phe	Thr	Phe	Leu	
			210			215						220				
Glu	Asp	Leu	Gln	Ala	Lys	Ile	Leu	Gly	Ile	Pro	Tyr	Lys	Asn	Asn	Asp	
225				230						235						
Leu	Ser	Met	Phe	Val	Leu	Leu	Pro	Asn	Asp	Ile	Asp	Gly	Leu	Glu	Lys	
			245						250							
Ile	Ile	Asp	Lys	Ile	Ser	Pro	Glu	Lys	Leu	Val	Glu	Trp	Thr	Ser	Pro	
			260						265							
Gly	His	Met	Glu	Glu	Arg	Lys	Val	Asn	Leu	His	Leu	Pro	Arg	Phe	Glu	
			275						280							
Val	Glu	Asp	Gly	Tyr	Asp	Leu	Gln	Ala	Val	Leu	Ala	Ala	Met	Gly	Met	
			290			295						300				
Gly	Asp	Ala	Phe	Ser	Glu	His	Lys	Ala	Asp	Tyr	Ser	Gly	Met	Ser	Ser	
305				310						315						
Gly	Ser	Gly	Leu	Tyr	Ala	Gln	Lys	Phe	Leu	His	Ser	Ser	Phe	Val	Ala	
			325						330							
Val	Thr	Glu	Glu	Gly	Thr	Glu	Ala	Ala	Ala	Ala	Thr	Gly	Ile	Gly	Phe	
			340						345							
Thr	Val	Thr	Ser	Ala	Pro	Gly	His	Glu	Asn	Val	His	Cys	Asn	His	Pro	
			355			360						365				
Phe	Leu	Phe	Phe	Ile	Arg	His	Asn	Glu	Ser	Asn	Ser	Ile	Leu	Phe	Phe	
			370			375						380				
Gly	Arg	Phe	Ser	Ser	Pro											

385

390

&lt;210&gt; 63

&lt;211&gt; 391

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 63

Met Asp Ser Leu Gly Ala Val Ser Thr Arg Leu Gly Phe Asp Leu Phe  
 1 5 10 15

Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val  
 20 25 30

Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala  
 35 40 45

Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys  
 50 55 60

Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Ile Glu Asn Thr Glu  
 65 70 75 80

Ala Val His Gln Gln Phe Gln Lys Phe Leu Thr Glu Ile Ser Lys Leu  
 85 90 95

Thr Asn Asp Tyr Glu Leu Asn Ile Thr Asn Arg Leu Phe Gly Glu Lys  
 100 105 110

Thr Tyr Leu Phe Leu Gln Lys Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr  
 115 120 125

His Ala Ser Leu Glu Pro Val Asp Phe Val Asn Ala Ala Asp Glu Ser  
 130 135 140

Arg Lys Lys Ile Asn Ser Trp Val Glu Ser Lys Thr Asn Glu Lys Ile  
 145 150 155 160

Lys Asp Leu Phe Pro Asp Gly Ser Ile Ser Ser Ser Thr Lys Leu Val  
 165 170 175

Leu Val Asn Met Val Tyr Phe Lys Gly Gln Trp Asp Arg Glu Phe Lys  
 180 185 190

Lys Glu Asn Thr Lys Glu Glu Lys Phe Trp Met Asn Lys Ser Thr Ser  
 195 200 205

Lys Ser Val Gln Met Met Thr Gln Ser His Ser Phe Ser Phe Thr Phe  
 210 215 220

Leu Glu Asp Leu Gln Ala Lys Ile Leu Gly Ile Pro Tyr Lys Asn Asn  
 225 230 235 240

Asp Leu Ser Met Phe Val Leu Leu Pro Asn Asp Ile Asp Gly Leu Glu  
 245 250 255

Lys Ile Ile Asp Lys Ile Ser Pro Glu Lys Leu Val Glu Trp Thr Ser  
 260 265 270  
 Pro Gly His Met Glu Glu Arg Lys Val Asn Leu His Leu Pro Arg Phe  
 275 280 285  
 Glu Val Glu Asp Ser Tyr Asp Leu Glu Ala Val Leu Ala Ala Met Gly  
 290 295 300  
 Met Gly Asp Ala Phe Ser Glu His Lys Ala Asp Tyr Ser Gly Met Ser  
 305 310 315 320  
 Ser Gly Ser Gly Leu Tyr Ala Gln Lys Phe Leu His Ser Ser Phe Val  
 325 330 335  
 Ala Val Thr Glu Glu Gly Thr Glu Ala Ala Ala Ala Thr Gly Ile Gly  
 340 345 350  
 Phe Thr Val Thr Ser Ala Pro Gly His Glu Asn Val His Cys Asn His  
 355 360 365  
 Pro Phe Leu Phe Phe Ile Arg His Asn Glu Ser Asn Ser Ile Leu Phe  
 370 375 380  
 Phe Gly Arg Phe Ser Ser Pro  
 385 390

<210> 64  
 <211> 339  
 <212> PRT  
 <213> Homo sapiens

<400> 64  
 Met Asp Ser Leu Gly Ala Val Asn Thr Arg Leu Gly Phe Asp Leu Phe  
 1 5 10 15  
 Lys Glu Leu Lys Lys Thr Asn Asp Gly Asn Ile Phe Phe Ser Pro Val  
 20 25 30  
 Gly Ile Leu Thr Ala Ile Gly Met Val Leu Leu Gly Thr Arg Gly Ala  
 35 40 45  
 Thr Ala Ser Gln Leu Glu Glu Val Phe His Ser Glu Lys Glu Thr Lys  
 50 55 60  
 Ser Ser Arg Ile Lys Ala Glu Glu Lys Glu Val Ile Glu Asn Thr Glu  
 65 70 75 80  
 Ala Val His Gln Gln Phe Gln Lys Phe Leu Thr Glu Ile Ser Lys Leu  
 85 90 95  
 Thr Asn Asp Tyr Glu Leu Asn Ile Thr Asn Arg Leu Phe Gly Glu Lys  
 100 105 110  
 Thr Tyr Leu Phe Leu Gln Lys Tyr Leu Asp Tyr Val Glu Lys Tyr Tyr  
 115 120 125

His Ala Ser Leu Glu Pro Val Asp Phe Val Asn Ala Ala Asp Glu Ser  
 130 135 140  
 Arg Lys Lys Ile Asn Ser Trp Val Glu Ser Lys Thr Asn Glu Lys Ile  
 145 150 155 160  
 Lys Asp Leu Phe Pro Asp Gly Ser Ile Ser Ser Ser Thr Lys Leu Val  
 165 170 175  
 Leu Val Asn Met Val Tyr Phe Lys Gly Gln Trp Asp Arg Glu Phe Lys  
 180 185 190  
 Lys Glu Asn Thr Lys Glu Glu Lys Phe Trp Met Asn Lys Ile Ile Asp  
 195 200 205  
 Lys Ile Ser Pro Glu Lys Leu Val Glu Trp Thr Ser Pro Gly His Met  
 210 215 220  
 Glu Glu Arg Lys Val Asn Leu His Leu Pro Arg Phe Glu Val Glu Asp  
 225 230 235 240  
 Gly Tyr Asp Leu Glu Ala Val Leu Ala Ala Met Gly Met Gly Asp Ala  
 245 250 255  
 Phe Ser Glu His Lys Ala Asp Tyr Ser Gly Met Ser Ser Gly Ser Gly  
 260 265 270  
 Leu Tyr Ala Gln Lys Phe Leu His Ser Ser Phe Val Ala Val Thr Glu  
 275 280 285  
 Glu Gly Thr Glu Ala Ala Ala Ala Thr Gly Ile Gly Phe Thr Val Thr  
 290 295 300  
 Ser Ala Pro Gly His Glu Asn Val His Cys Asn His Pro Phe Leu Phe  
 305 310 315 320  
 Phe Ile Arg His Asn Glu Ser Asn Ser Ile Leu Phe Phe Gly Arg Phe  
 325 330 335  
 Ser Ser Pro

<210> 65  
 <211> 390  
 <212> PRT  
 <213> Homo sapiens

<400> 65  
 Met Asn Ser Leu Ser Glu Ala Asn Thr Lys Phe Met Phe Asp Leu Phe  
 1 5 10 15  
 Gln Gln Phe Arg Lys Ser Lys Glu Asn Asn Ile Phe Tyr Ser Pro Ile  
 20 25 30  
 Ser Ile Thr Ser Ala Leu Gly Met Val Leu Leu Gly Ala Lys Asp Asn

35					40					45					
Thr	Ala	Gln	Gln	Ile	Lys	Lys	Val	Leu	His	Phe	Asp	Gln	Val	Thr	Glu
	50					55					60				
Asn	Thr	Thr	Gly	Lys	Ala	Ala	Thr	Tyr	His	Val	Asp	Arg	Ser	Gly	Asn
	65					70					75				80
Val	His	His	Gln	Phe	Gln	Lys	Leu	Leu	Thr	Glu	Phe	Asn	Lys	Ser	Thr
				85					90					95	
Asp	Ala	Tyr	Glu	Leu	Lys	Ile	Ala	Asn	Lys	Leu	Phe	Gly	Glu	Lys	Thr
			100					105					110		
Tyr	Leu	Phe	Leu	Gln	Glu	Tyr	Leu	Asp	Ala	Ile	Lys	Lys	Phe	Tyr	Gln
		115					120					125			
Thr	Ser	Val	Glu	Ser	Val	Asp	Phe	Ala	Asn	Ala	Pro	Glu	Glu	Ser	Arg
		130				135					140				
Lys	Lys	Ile	Asn	Ser	Trp	Val	Glu	Ser	Gln	Thr	Asn	Glu	Lys	Ile	Lys
					150					155					160
Asn	Leu	Ile	Pro	Glu	Gly	Asn	Ile	Gly	Ser	Asn	Thr	Thr	Leu	Val	Leu
				165					170					175	
Val	Asn	Ala	Ile	Tyr	Phe	Lys	Gly	Gln	Trp	Glu	Lys	Lys	Phe	Asn	Lys
			180					185					190		
Glu	Asp	Thr	Lys	Glu	Glu	Lys	Phe	Trp	Pro	Asn	Lys	Asn	Thr	Tyr	Lys
		195					200					205			
Ser	Ile	Gln	Met	Met	Arg	Gln	Tyr	Thr	Ser	Phe	His	Phe	Ala	Ser	Leu
						215					220				
Glu	Asp	Val	Gln	Ala	Lys	Val	Leu	Glu	Ile	Pro	Tyr	Lys	Gly	Lys	Asp
					230					235					240
Leu	Ser	Met	Ile	Val	Leu	Leu	Pro	Asn	Glu	Ile	Asp	Gly	Leu	Gln	Lys
				245					250					255	
Leu	Glu	Glu	Lys	Leu	Thr	Ala	Glu	Lys	Leu	Met	Glu	Trp	Thr	Ser	Leu
			260					265					270		
Gln	Asn	Met	Arg	Glu	Thr	Arg	Val	Asp	Leu	His	Leu	Pro	Arg	Phe	Lys
			275				280					285			
Val	Glu	Glu	Ser	Tyr	Asp	Leu	Lys	Asp	Thr	Leu	Arg	Thr	Met	Gly	Met
					295						300				
Val	Asp	Ile	Phe	Asn	Gly	Asp	Ala	Asp	Leu	Ser	Gly	Met	Thr	Gly	Ser
					310				315						320
Arg	Gly	Leu	Val	Leu	Ser	Gly	Val	Leu	His	Lys	Ala	Phe	Val	Glu	Val
				325					330					335	
Thr	Glu	Glu	Gly	Ala	Glu	Ala	Ala	Ala	Ala	Thr	Ala	Val	Val	Gly	Phe



340                      345                      350  
 Gly Ser Ser Pro Ala Ser Thr Asn Glu Glu Phe His Cys Asn His Pro  
       355                      360                      365  
 Phe Leu Phe Phe Ile Arg Gln Asn Lys Thr Asn Ser Ile Leu Phe Tyr  
       370                      375                      380  
 Gly Arg Phe Ser Ser Pro  
 385                      390

<210> 66  
 <211> 377  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Serpin  
       Consensus Sequence

<400> 66  
 Asp Ser Ser Arg Ala Leu Lys Leu Ala Ser Ala Asn Ala Asp Phe Ala  
   1                                  5                                  10                                  15  
 Phe Ser Leu Tyr Lys Glu Leu Val Glu Gln Asn Pro Asp Lys Asn Ile  
                   20                                  25                                  30  
 Phe Phe Ser Pro Val Ser Ile Ser Ser Ala Leu Ala Met Leu Ser Leu  
                   35                                  40                                  45  
 Gly Ala Lys Gly Asn Thr Ala Thr Gln Ile Leu Glu Val Leu Gly Phe  
   50                                  55                                  60  
 Asn Leu Thr Glu Thr Ser Glu Ala Glu Ile His Gln Gly Phe Gln His  
   65                                  70                                  75                                  80  
 Leu Leu Gln Glu Leu Asn Arg Pro Asp Thr Gly Leu Gln Leu Thr Thr  
                   85                                  90                                  95  
 Gly Asn Ala Leu Phe Val Asp Lys Ser Leu Lys Leu Leu Asp Glu Phe  
                   100                                  105                                  110  
 Leu Glu Asp Ser Lys Arg Leu Tyr Gln Ser Glu Val Phe Ser Val Asp  
                   115                                  120                                  125  
 Phe Ser Asp Pro Glu Glu Ala Lys Lys Gln Ile Asn Asp Trp Val Glu  
   130                                  135                                  140  
 Lys Lys Thr Gln Gly Lys Ile Lys Asp Leu Leu Lys Asp Leu Asp Ser  
   145                                  150                                  155                                  160  
 Asp Thr Val Leu Val Leu Val Asn Tyr Ile Tyr Phe Lys Gly Lys Trp  
                   165                                  170                                  175  
 Lys Lys Pro Phe Asp Pro Glu Leu Thr Glu Glu Glu Asp Phe His Val  
                   180                                  185                                  190

Asp	Lys	Lys	Thr	Thr	Val	Lys	Val	Pro	Met	Met	Asn	Gln	Leu	Gly	Thr
	195						200					205			
Phe	Tyr	Tyr	Phe	Arg	Asp	Glu	Glu	Leu	Asn	Cys	Lys	Val	Leu	Glu	Leu
	210					215					220				
Pro	Tyr	Lys	Gly	Asn	Ala	Thr	Ser	Met	Leu	Phe	Ile	Leu	Pro	Asp	Glu
225					230					235					240
Val	Gly	Lys	Leu	Glu	Gln	Val	Glu	Ala	Ala	Leu	Ser	Pro	Glu	Thr	Leu
				245					250					255	
Arg	Lys	Trp	Leu	Glu	Asn	Met	Glu	Pro	Arg	Glu	Val	Glu	Leu	Tyr	Leu
			260					265						270	
Pro	Lys	Phe	Ser	Ile	Glu	Gly	Thr	Tyr	Asp	Leu	Lys	Asp	Val	Leu	Ala
		275					280					285			
Lys	Leu	Gly	Ile	Thr	Asp	Leu	Phe	Ser	Asn	Gln	Ala	Asp	Leu	Ser	Gly
	290					295					300				
Ile	Ser	Glu	Asp	Glu	Asp	Leu	Lys	Val	Ser	Lys	Ala	Val	His	Lys	Ala
305					310					315					320
Val	Leu	Glu	Val	Asp	Glu	Glu	Gly	Thr	Glu	Ala	Ala	Ala	Ala	Thr	Gly
				325					330					335	
Ala	Ile	Ile	Val	Pro	Arg	Ser	Leu	Pro	Pro	Glu	Leu	Glu	Phe	Thr	Ala
			340					345					350		
Asp	Arg	Pro	Phe	Leu	Phe	Leu	Ile	Tyr	Asp	Asp	Pro	Thr	Gly	Ser	Ile
		355					360					365			
Leu	Phe	Met	Gly	Lys	Val	Val	Asn	Pro							
	370					375									

<210> 67

<211> 360

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Serpin  
Consensus Sequence

<400> 67

Phe	Asp	Leu	Tyr	Lys	Glu	Leu	Ala	Lys	Glu	Ser	Pro	Asp	Lys	Asn	Ile
1				5					10					15	
Phe	Phe	Ser	Pro	Val	Ser	Ile	Ser	Ser	Ala	Leu	Ala	Met	Leu	Ser	Leu
			20					25					30		
Gly	Ala	Lys	Gly	Ser	Thr	Ala	Thr	Gln	Ile	Leu	Glu	Val	Leu	Gly	Phe
		35					40					45			



Phe Met Gly Lys Val Val Asn Pro  
 355 360

<210> 68  
 <211> 1697  
 <212> PRT  
 <213> Homo sapiens

<400> 68  
 Ile Arg His Glu Val Phe Leu Ser Arg Ser Tyr Gln Arg Leu Ala Asp  
 1 5 10 15  
 Ala Cys Arg Gly Leu Leu Ala Leu Leu Phe Pro Leu Arg Tyr Ser Phe  
 20 25 30  
 Thr Tyr Val Pro Ile Leu Pro Ala Gln Leu Leu Glu Val Leu Ser Thr  
 35 40 45  
 Pro Thr Pro Phe Ile Ile Gly Val Asn Ala Ala Phe Gln Ala Glu Thr  
 50 55 60  
 Gln Glu Leu Leu Asp Val Ile Val Ala Asp Leu Asp Gly Gly Thr Val  
 65 70 75 80  
 Thr Ile Pro Glu Cys Val His Ile Pro Pro Leu Pro Glu Pro Leu Gln  
 85 90 95  
 Ser Gln Thr His Ser Val Leu Ser Met Val Leu Asp Pro Glu Leu Glu  
 100 105 110  
 Leu Ala Asp Leu Ala Phe Pro Pro Pro Thr Thr Ser Thr Ser Ser Leu  
 115 120 125  
 Lys Met Gln Asp Lys Glu Leu Arg Ala Val Phe Leu Arg Leu Phe Ala  
 130 135 140  
 Gln Leu Leu Gln Gly Tyr Arg Trp Cys Leu His Val Val Arg Ile His  
 145 150 155 160  
 Pro Glu Pro Val Ile Arg Phe His Lys Ala Ala Phe Leu Gly Gln Arg  
 165 170 175  
 Gly Leu Val Glu Asp Asp Phe Leu Met Lys Val Leu Glu Gly Met Ala  
 180 185 190  
 Phe Ala Gly Phe Val Ser Glu Arg Gly Val Pro Tyr Arg Pro Thr Asp  
 195 200 205  
 Leu Phe Asp Glu Leu Val Ala His Glu Val Ala Arg Met Arg Ala Asp  
 210 215 220  
 Glu Asn His Pro Gln Arg Val Leu Arg His Val Gln Glu Leu Ala Glu  
 225 230 235 240  
 Gln Leu Tyr Lys Asn Glu Asn Pro Tyr Pro Ala Val Ala Met His Lys  
 245 250 255

Val	Gln	Arg	Pro	Gly	Glu	Ser	Ser	His	Leu	Arg	Arg	Val	Pro	Arg	Pro	260	265	270
Phe	Pro	Arg	Leu	Asp	Glu	Gly	Thr	Val	Gln	Trp	Ile	Val	Asp	Gln	Ala	275	280	285
Ala	Ala	Lys	Met	Gln	Gly	Ala	Pro	Pro	Ala	Val	Lys	Ala	Glu	Arg	Arg	290	295	300
Thr	Thr	Val	Pro	Ser	Gly	Pro	Pro	Met	Thr	Ala	Ile	Leu	Glu	Arg	Cys	305	310	315
Ser	Gly	Leu	His	Val	Asn	Ser	Ala	Arg	Arg	Leu	Glu	Val	Val	Arg	Asn	325	330	335
Cys	Ile	Ser	Tyr	Val	Phe	Glu	Gly	Lys	Met	Leu	Glu	Ala	Lys	Lys	Leu	340	345	350
Leu	Pro	Ala	Val	Leu	Arg	Ala	Leu	Lys	Gly	Arg	Val	Ala	Arg	Arg	Cys	355	360	365
Leu	Ala	Gln	Glu	Leu	His	Leu	His	Val	Gln	Gln	Asn	Arg	Ala	Val	Leu	370	375	380
Asp	His	Gln	Gln	Phe	Asp	Phe	Val	Val	Arg	Met	Met	Asn	Cys	Cys	Leu	385	390	395
Gln	Asp	Cys	Thr	Ser	Leu	Asp	Glu	His	Gly	Ile	Ala	Ala	Ala	Leu	Leu	405	410	415
Pro	Leu	Val	Thr	Ala	Phe	Cys	Arg	Lys	Leu	Ser	Pro	Gly	Val	Thr	Gln	420	425	430
Phe	Ala	Tyr	Ser	Cys	Val	Gln	Glu	His	Val	Val	Trp	Ser	Thr	Pro	Gln	435	440	445
Phe	Trp	Glu	Ala	Met	Phe	Tyr	Gly	Asp	Val	Gln	Thr	His	Ile	Arg	Ala	450	455	460
Leu	Tyr	Leu	Glu	Pro	Thr	Glu	Asp	Leu	Ala	Pro	Ala	Gln	Glu	Val	Gly	465	470	475
Glu	Ala	Pro	Ser	Gln	Glu	Asp	Glu	Arg	Ser	Ala	Leu	Asp	Val	Ala	Ser	485	490	495
Glu	Gln	Arg	Arg	Leu	Trp	Pro	Thr	Leu	Ser	Arg	Glu	Lys	Gln	Gln	Glu	500	505	510
Leu	Val	Gln	Lys	Glu	Glu	Ser	Thr	Val	Phe	Ser	Gln	Ala	Ile	His	Tyr	515	520	525
Ala	Asn	Arg	Met	Ser	Tyr	Leu	Leu	Leu	Pro	Leu	Asp	Ser	Ser	Lys	Ser	530	535	540
Arg	Leu	Leu	Arg	Glu	Arg	Ala	Gly	Leu	Gly	Asp	Leu	Glu	Ser	Ala	Ser	545	550	555

Asn	Ser	Leu	Val	Thr	Asn	Ser	Met	Ala	Gly	Ser	Val	Ala	Glu	Ser	Tyr		
				565					570					575			
Asp	Thr	Glu	Ser	Gly	Phe	Glu	Asp	Ala	Glu	Thr	Cys	Asp	Val	Ala	Gly		
			580					585					590				
Ala	Val	Val	Arg	Phe	Ile	Asn	Arg	Phe	Val	Asp	Lys	Val	Cys	Thr	Glu		
		595					600					605					
Ser	Gly	Val	Thr	Ser	Asp	His	Leu	Lys	Gly	Leu	His	Val	Met	Val	Pro		
	610					615					620						
Asp	Ile	Val	Gln	Met	His	Ile	Glu	Thr	Leu	Glu	Ala	Val	Gln	Arg	Glu		
625					630					635					640		
Ser	Arg	Arg	Leu	Pro	Pro	Ile	Gln	Lys	Pro	Lys	Leu	Leu	Arg	Pro	Arg		
				645					650					655			
Leu	Leu	Pro	Gly	Glu	Glu	Cys	Val	Leu	Asp	Gly	Leu	Arg	Val	Tyr	Leu		
			660					665					670				
Leu	Pro	Asp	Gly	Arg	Glu	Glu	Gly	Ala	Gly	Gly	Ser	Ala	Gly	Gly	Pro		
		675					680					685					
Ala	Leu	Leu	Pro	Ala	Glu	Gly	Ala	Val	Phe	Leu	Thr	Thr	Tyr	Arg	Val		
	690					695					700						
Ile	Phe	Thr	Gly	Met	Pro	Thr	Asp	Pro	Leu	Val	Gly	Glu	Gln	Val	Val		
705					710					715					720		
Val	Arg	Ser	Phe	Pro	Val	Ala	Ala	Leu	Thr	Lys	Glu	Lys	Arg	Ile	Ser		
				725					730					735			
Val	Gln	Thr	Pro	Val	Asp	Gln	Leu	Leu	Gln	Asp	Gly	Leu	Gln	Leu	Arg		
			740					745					750				
Ser	Cys	Thr	Phe	Gln	Leu	Leu	Lys	Met	Ala	Phe	Asp	Glu	Glu	Val	Gly		
		755					760					765					
Ser	Asp	Ser	Ala	Glu	Leu	Phe	Arg	Lys	Gln	Leu	His	Lys	Leu	Arg	Tyr		
	770					775					780						
Pro	Pro	Asp	Ile	Arg	Ala	Thr	Phe	Ala	Phe	Thr	Leu	Gly	Ser	Ala	His		
785					790					795					800		
Thr	Pro	Gly	Arg	Pro	Pro	Arg	Val	Thr	Lys	Asp	Lys	Gly	Pro	Ser	Leu		
				805					810					815			
Arg	Thr	Leu	Ser	Arg	Asn	Leu	Val	Lys	Asn	Ala	Lys	Lys	Thr	Ile	Gly		
			820					825					830				
Arg	Gln	His	Val	Thr	Arg	Lys	Lys	Tyr	Asn	Pro	Pro	Ser	Trp	Glu	His		
		835					840					845					
Arg	Gly	Gln	Pro	Pro	Pro	Glu	Asp	Gln	Glu	Asp	Glu	Ile	Ser	Val	Ser		
	850					855					860						

Glu Glu Leu Glu Pro Ser Thr Leu Thr Pro Ser Ser Ala Leu Lys Pro  
 865 870 875 880  
 Ser Asp Arg Met Thr Met Ser Ser Leu Val Glu Arg Ala Cys Cys Arg  
 885 890 895  
 Asp Tyr Gln Arg Leu Gly Leu Gly Thr Leu Ser Ser Ser Leu Ser Arg  
 900 905 910  
 Ala Lys Ser Glu Pro Phe Arg Ile Ser Pro Val Asn Arg Met Tyr Ala  
 915 920 925  
 Ile Cys Arg Ser Tyr Pro Gly Leu Leu Ile Val Arg Gln Ser Val Gln  
 930 935 940  
 Asp Asn Ala Leu Gln Arg Val Ser Arg Cys Tyr Arg Gln Asn Arg Phe  
 945 950 955 960  
 Pro Val Val Cys Trp Arg Ser Gly Arg Ser Lys Ala Val Leu Leu Arg  
 965 970 975  
 Ser Gly Gly Leu His Gly Lys Gly Val Val Gly Leu Phe Lys Ala Gln  
 980 985 990  
 Asn Ala Pro Ser Pro Gly Gln Ser Gln Ala Asp Ser Ser Ser Leu Glu  
 995 1000 1005  
 Gln Glu Lys Tyr Leu Gln Ala Val Val Ser Ser Met Pro Arg Tyr Ala  
 1010 1015 1020  
 Asp Ala Ser Gly Arg Asn Thr Leu Ser Gly Phe Ser Ser Ala His Met  
 1025 1030 1035 1040  
 Gly Ser His Gly Lys Trp Gly Ser Val Arg Thr Ser Gly Arg Ser Ser  
 1045 1050 1055  
 Gly Leu Gly Thr Asp Val Gly Ser Arg Leu Ala Gly Arg Asp Ala Leu  
 1060 1065 1070  
 Ala Pro Pro Gln Ala Asn Gly Gly Pro Pro Asp Pro Gly Phe Leu Arg  
 1075 1080 1085  
 Pro Gln Arg Ala Ala Leu Tyr Ile Leu Gly Asp Lys Ala Gln Leu Lys  
 1090 1095 1100  
 Gly Val Arg Ser Asp Pro Leu Gln Gln Trp Glu Leu Val Pro Ile Glu  
 1105 1110 1115 1120  
 Val Phe Glu Ala Arg Gln Val Lys Ala Ser Phe Lys Lys Leu Leu Lys  
 1125 1130 1135  
 Ala Cys Val Pro Gly Cys Pro Ala Ala Glu Pro Ser Pro Ala Ser Phe  
 1140 1145 1150  
 Leu Arg Ser Leu Glu Asp Ser Glu Trp Leu Ile Gln Ile His Lys Leu  
 1155 1160 1165

Leu Gln Val Ser Val Leu Val Val Glu Leu Leu Asp Ser Gly Ser Ser  
 1170 1175 1180  
 Val Leu Val Gly Leu Glu Asp Gly Trp Asp Ile Thr Thr Gln Val Val  
 1185 1190 1195 1200  
 Ser Leu Val Gln Leu Leu Ser Asp Pro Phe Tyr Arg Thr Leu Glu Gly  
 1205 1210 1215  
 Phe Arg Leu Leu Val Glu Lys Glu Trp Leu Ser Phe Gly His Arg Phe  
 1220 1225 1230  
 Ser His Arg Gly Ala His Thr Leu Ala Gly Gln Ser Ser Gly Phe Thr  
 1235 1240 1245  
 Pro Val Phe Leu Gln Phe Leu Asp Cys Val His Gln Val His Leu Gln  
 1250 1255 1260  
 Phe Pro Met Glu Phe Glu Phe Ser Gln Phe Tyr Leu Lys Phe Leu Gly  
 1265 1270 1275 1280  
 Tyr His His Val Ser Arg Arg Phe Arg Thr Phe Leu Leu Asp Ser Asp  
 1285 1290 1295  
 Tyr Glu Arg Ile Glu Leu Gly Leu Leu Tyr Glu Glu Lys Gly Glu Arg  
 1300 1305 1310  
 Arg Gly Gln Val Pro Cys Arg Ser Val Trp Glu Tyr Val Asp Arg Leu  
 1315 1320 1325  
 Ser Lys Arg Thr Pro Val Phe His Asn Tyr Met Tyr Ala Pro Glu Asp  
 1330 1335 1340  
 Ala Glu Val Leu Arg Pro Tyr Ser Asn Val Ser Asn Leu Lys Val Trp  
 1345 1350 1355 1360  
 Asp Phe Tyr Thr Glu Glu Thr Leu Ala Glu Ala Leu Pro Met Thr Gly  
 1365 1370 1375  
 Asn Trp Pro Arg Gly Pro Leu Asn Pro Gln Arg Lys Asn Gly Leu Met  
 1380 1385 1390  
 Glu Ala Ser Pro Glu Gln Arg Arg Val Val Trp Pro Cys Tyr Asp Ser  
 1395 1400 1405  
 Cys Pro Arg Ala Gln Pro Asp Ala Ile Ser Arg Leu Leu Glu Glu Leu  
 1410 1415 1420  
 Gln Arg Leu Glu Thr Glu Leu Gly Gln Pro Ala Glu Arg Trp Lys Asp  
 1425 1430 1435 1440  
 Thr Trp Asp Arg Val Lys Ala Ala Gln Arg Leu Glu Gly Arg Pro Asp  
 1445 1450 1455  
 Gly Arg Gly Thr Pro Ser Ser Leu Leu Val Ser Thr Ala Pro His His  
 1460 1465 1470



Arg Arg Ser Leu Gly Val Tyr Leu Gln Glu Gly Pro Val Gly Ser Thr  
 1475 1480 1485  
 Leu Ser Leu Ser Leu Asp Ser Asp Gln Ser Ser Gly Ser Thr Thr Ser  
 1490 1495 1500  
 Gly Ser Arg Gln Ala Ala Arg Arg Ser Thr Ser Thr Leu Tyr Ser Gln  
 1505 1510 1515 1520  
 Phe Gln Thr Ala Glu Ser Glu Asn Arg Ser Tyr Glu Gly Thr Leu Tyr  
 1525 1530 1535  
 Lys Lys Gly Ala Phe Met Lys Pro Trp Lys Ala Arg Trp Phe Val Leu  
 1540 1545 1550  
 Asp Lys Thr Lys His Gln Leu Arg Tyr Tyr Asp His Arg Val Asp Thr  
 1555 1560 1565  
 Glu Cys Lys Gly Val Ile Asp Leu Ala Glu Val Glu Ala Val Ala Pro  
 1570 1575 1580  
 Gly Thr Pro Thr Met Gly Ala Pro Lys Thr Val Asp Glu Lys Ala Phe  
 1585 1590 1595 1600  
 Phe Asp Val Lys Thr Thr Arg Arg Val Tyr Asn Phe Cys Ala Gln Asp  
 1605 1610 1615  
 Val Pro Ser Ala Gln Gln Trp Val Asp Arg Ile Gln Ser Cys Cys Arg  
 1620 1625 1630  
 Thr Pro Glu Pro Pro Ser Pro Ala Arg Leu Leu Cys Ser Arg Tyr Arg  
 1635 1640 1645  
 Pro Leu Gly Val Ala Gly Pro Pro Arg Pro Cys Leu Gln Pro Arg Pro  
 1650 1655 1660  
 Ser Thr Val Leu Ser Pro Glu Pro Pro Ala Leu Val Cys Thr Ala Pro  
 1665 1670 1675 1680  
 Val Pro Ala Pro Pro Arg Pro Ala Gly Pro Asn Leu Phe Trp Arg His  
 1685 1690 1695

Ser

<210> 69  
 <211> 552  
 <212> PRT  
 <213> Homo sapiens

<400> 69  
 Asp Leu Phe Phe Lys Tyr Thr Trp Asn Asn Phe Leu His Phe Gln Val  
 1 5 10 15

Glu Leu Cys Ile Ala Ala Ile Leu Ser His Ala Ala Arg Glu Glu Arg

20					25					30					
Thr	Glu	Ala	Ser	Gly	Ser	Glu	Ser	Arg	Val	Glu	Pro	Pro	His	Glu	Asn
		35					40					45			
Gly	Asn	Arg	Ser	Leu	Glu	Thr	Pro	Gln	Pro	Ala	Ala	Ser	Leu	Pro	Asp
	50					55					60				
Asn	Thr	Met	Val	Thr	His	Leu	Phe	Gln	Lys	Cys	Cys	Leu	Val	Gln	Arg
65					70					75					80
Ile	Leu	Glu	Ala	Trp	Glu	Ala	Asn	Asp	His	Thr	Gln	Ala	Ala	Gly	Gly
				85					90					95	
Met	Arg	Arg	Gly	Asn	Met	Gly	His	Leu	Thr	Arg	Ile	Ala	Asn	Ala	Val
			100					105					110		
Val	Gln	Asn	Leu	Glu	Arg	Gly	Pro	Val	Gln	Thr	His	Ile	Ser	Glu	Val
		115					120					125			
Ile	Arg	Gly	Leu	Pro	Ala	Asp	Cys	Arg	Gly	Arg	Trp	Glu	Ser	Phe	Val
	130					135					140				
Glu	Glu	Thr	Leu	Thr	Glu	Thr	Asn	Arg	Arg	Asn	Thr	Val	Asp	Leu	Ala
145					150					155					160
Phe	Ser	Asp	Tyr	Gln	Ile	Gln	Gln	Met	Thr	Ala	Asn	Phe	Val	Asp	Gln
				165					170					175	
Phe	Gly	Phe	Asn	Asp	Glu	Glu	Phe	Ala	Asp	Gln	Asp	Asp	Asn	Ile	Asn
			180					185					190		
Ala	Pro	Phe	Asp	Arg	Ile	Ala	Glu	Ile	Asn	Phe	Asn	Ile	Asp	Ala	Asp
		195					200					205			
Glu	Asp	Ser	Pro	Ser	Ala	Ala	Leu	Phe	Glu	Ala	Cys	Cys	Ser	Asp	Arg
	210					215					220				
Ile	Gln	Pro	Phe	Asp	Asp	Asp	Glu	Asp	Glu	Asp	Ile	Trp	Glu	Asp	Ser
225					230					235					240
Asp	Thr	Arg	Cys	Ala	Ala	Arg	Val	Met	Ala	Arg	Pro	Arg	Phe	Gly	Ala
				245					250					255	
Pro	His	Ala	Ser	Glu	Ser	Cys	Ser	Lys	Asn	Gly	Pro	Glu	Arg	Gly	Gly
			260					265					270		
Gln	Asp	Gly	Lys	Ala	Ser	Leu	Glu	Ala	His	Arg	Asp	Ala	Pro	Gly	Ala
		275					280					285			
Gly	Ala	Pro	Pro	Ala	Pro	Gly	Lys	Lys	Glu	Ala	Pro	Pro	Val	Glu	Gly
	290					295					300				
Asp	Ser	Glu	Ala	Gly	Ala	Met	Trp	Thr	Ala	Val	Phe	Asp	Glu	Pro	Ala
305					310					315					320
Asn	Ser	Thr	Pro	Thr	Ala	Pro	Gly	Val	Val	Arg	Asp	Val	Gly	Ser	Ser

325										330					335				
Val	Trp	Ala	Ala	Gly	Thr	Ser	Ala	Pro	Glu	Glu	Lys	Gly	Trp	Ala	Lys				
			340					345					350						
Phe	Thr	Asp	Phe	Gln	Pro	Phe	Cys	Cys	Ser	Glu	Ser	Gly	Pro	Arg	Cys				
		355					360					365							
Ser	Ser	Pro	Val	Asp	Thr	Glu	Cys	Ser	His	Ala	Glu	Gly	Ser	Arg	Ser				
	370					375						380							
Gln	Gly	Pro	Glu	Lys	Ala	Phe	Ser	Pro	Ala	Ser	Pro	Cys	Ala	Trp	Asn				
385					390					395					400				
Val	Cys	Val	Thr	Arg	Lys	Ala	Pro	Leu	Leu	Ala	Ser	Asp	Ser	Ser	Ser				
				405					410						415				
Ser	Gly	Gly	Ser	His	Ser	Glu	Asp	Gly	Asp	Gln	Lys	Ala	Ala	Ser	Ala				
			420					425					430						
Met	Asp	Ala	Val	Ser	Arg	Gly	Pro	Gly	Arg	Glu	Ala	Pro	Pro	Leu	Pro				
		435					440					445							
Thr	Val	Ala	Arg	Thr	Glu	Glu	Ala	Val	Gly	Arg	Val	Gly	Cys	Ala	Asp				
	450					455					460								
Ser	Arg	Leu	Leu	Ser	Pro	Ala	Cys	Pro	Ala	Pro	Lys	Glu	Val	Thr	Ala				
465					470					475					480				
Ala	Pro	Ala	Val	Ala	Val	Pro	Pro	Glu	Ala	Thr	Val	Ala	Ile	Thr	Thr				
			485					490						495					
Ala	Leu	Ser	Lys	Ala	Gly	Pro	Ala	Ile	Pro	Thr	Pro	Ala	Val	Ser	Ser				
			500					505					510						
Ala	Leu	Ala	Val	Ala	Val	Pro	Leu	Gly	Pro	Ile	Met	Ala	Val	Thr	Ala				
		515					520					525							
Ala	Pro	Ala	Met	Val	Ala	Thr	Leu	Gly	Thr	Val	Thr	Lys	Asp	Gly	Gln				
	530					535					540								
Met	Pro	Arg	Gln	Lys	Glu	Leu	Pro												
545					550														

<210> 70  
 <211> 1327  
 <212> PRT  
 <213> Homo sapiens

<400> 70  
 Met Ser Ala Pro Ser Ser Ser Pro Arg Ala Ala Glu Pro Ala Arg Ala  
 1 5 10 15  
 Pro Arg Ala Ala Pro Arg Pro Ser Pro Trp Arg Gly Ser Arg Thr Thr  
 20 25 30

Ser Cys Trp Trp Arg Ser Gly Arg Thr Arg Ala Gly Ser Gly Glu Gly  
 35 40 45  
 Gln Gly Gln Ile Leu Gln Arg Phe Pro Glu Lys Asp Trp Glu Asp Asn  
 50 55 60  
 Pro Phe Pro Gln Gly Ile Glu Leu Phe Cys Gln Pro Ser Gly Trp Gln  
 65 70 75 80  
 Leu Cys Pro Glu Arg Asn Pro Pro Thr Phe Phe Val Ala Val Leu Thr  
 85 90 95  
 Asp Ile Asn Ser Glu Arg His Tyr Cys Ala Cys Leu Thr Phe Trp Glu  
 100 105 110  
 Pro Ala Glu Pro Ser Gln Glu Thr Thr Arg Val Glu Asp Ala Thr Glu  
 115 120 125  
 Arg Glu Glu Glu Gly Asp Glu Gly Gly Gln Thr His Leu Ser Pro Thr  
 130 135 140  
 Ala Pro Ala Pro Ser Ala Gln Leu Phe Ala Pro Lys Thr Leu Val Leu  
 145 150 155 160  
 Val Ser Arg Leu Asp His Thr Glu Val Phe Arg Asn Ser Leu Gly Leu  
 165 170 175  
 Ile Tyr Ala Ile His Val Glu Gly Leu Asn Val Cys Leu Glu Asn Val  
 180 185 190  
 Ile Gly Asn Leu Leu Thr Cys Thr Val Pro Leu Ala Gly Gly Ser Gln  
 195 200 205  
 Arg Thr Ile Ser Leu Gly Ala Gly Asp Arg Gln Val Ile Gln Thr Pro  
 210 215 220  
 Leu Ala Asp Ser Leu Pro Val Ser Arg Cys Ser Val Ala Leu Leu Phe  
 225 230 235 240  
 Arg Gln Leu Gly Ile Thr Asn Val Leu Ser Leu Phe Cys Ala Ala Leu  
 245 250 255  
 Thr Glu His Lys Val Leu Phe Leu Ser Arg Ser Tyr Gln Arg Leu Ala  
 260 265 270  
 Asp Ala Cys Arg Gly Leu Leu Ala Leu Leu Phe Pro Leu Arg Tyr Ser  
 275 280 285  
 Phe Thr Tyr Val Pro Ile Leu Pro Ala Gln Leu Leu Glu Val Leu Ser  
 290 295 300  
 Thr Pro Thr Pro Phe Ile Ile Gly Val Asn Ala Ala Phe Gln Ala Glu  
 305 310 315 320  
 Thr Gln Glu Leu Leu Asp Val Ile Val Ala Asp Leu Asp Gly Gly Thr  
 325 330 335

Val Thr Ile Pro Glu Cys Val His Ile Pro Pro Leu Pro Glu Pro Leu  
340 345 350  
Gln Ser Gln Thr His Ser Val Leu Ser Met Val Leu Asp Pro Glu Leu  
355 360 365  
Glu Leu Ala Asp Leu Ala Phe Pro Pro Pro Thr Thr Ser Thr Ser Ser  
370 375 380  
Leu Lys Met Gln Asp Lys Glu Leu Arg Ala Val Phe Leu Arg Leu Phe  
385 390 395 400  
Ala Gln Leu Leu Gln Gly Tyr Arg Trp Cys Leu His Val Val Arg Ile  
405 410 415  
His Pro Glu Pro Val Ile Arg Phe His Lys Ala Ala Phe Leu Gly Gln  
420 425 430  
Arg Gly Leu Val Glu Asp Asp Phe Leu Met Lys Val Leu Glu Gly Met  
435 440 445  
Ala Phe Ala Gly Phe Val Ser Glu Arg Gly Val Pro Tyr Arg Pro Thr  
450 455 460  
Asp Leu Phe Asp Glu Leu Val Ala His Glu Val Ala Arg Met Arg Ala  
465 470 475 480  
Asp Glu Asn His Pro Gln Arg Val Leu Arg His Val Gln Glu Leu Ala  
485 490 495  
Glu Gln Leu Tyr Lys Asn Glu Asn Pro Tyr Pro Ala Val Ala Met His  
500 505 510  
Lys Val Gln Arg Pro Gly Glu Ser Ser His Leu Arg Arg Val Pro Arg  
515 520 525  
Pro Phe Pro Arg Leu Asp Glu Gly Thr Val Gln Trp Ile Val Asp Gln  
530 535 540  
Ala Ala Ala Lys Met Gln Gly Ala Pro Pro Ala Val Lys Ala Glu Arg  
545 550 555 560  
Arg Thr Thr Val Pro Ser Gly Pro Pro Met Thr Ala Ile Leu Glu Arg  
565 570 575  
Cys Ser Gly Leu His Val Asn Ser Ala Arg Arg Leu Glu Val Val Arg  
580 585 590  
Asn Cys Ile Ser Tyr Val Phe Glu Gly Lys Met Leu Glu Ala Lys Lys  
595 600 605  
Leu Leu Pro Ala Val Leu Arg Ala Leu Lys Gly Arg Ala Ala Arg Arg  
610 615 620  
Cys Leu Ala Gln Glu Leu His Leu His Val Gln Gln Asn Arg Ala Val  
625 630 635 640

Leu Asp His Gln Gln Phe Asp Phe Val Val Arg Met Met Asn Cys Cys  
 645 650 655  
 Leu Gln Asp Cys Thr Ser Leu Asp Glu His Gly Ile Ala Ala Ala Leu  
 660 665 670  
 Leu Pro Leu Val Thr Ala Phe Cys Arg Lys Leu Ser Pro Gly Val Thr  
 675 680 685  
 Gln Phe Ala Tyr Ser Cys Val Gln Glu His Val Val Trp Ser Thr Pro  
 690 695 700  
 Gln Phe Trp Glu Ala Met Phe Tyr Gly Asp Val Gln Thr His Ile Arg  
 705 710 715 720  
 Ala Leu Tyr Leu Glu Pro Thr Glu Asp Leu Ala Pro Ala Gln Glu Val  
 725 730 735  
 Gly Glu Ala Pro Ser Gln Glu Asp Glu Arg Ser Ala Leu Asp Val Ala  
 740 745 750  
 Ser Glu Gln Arg Arg Leu Trp Pro Thr Leu Ser Arg Glu Lys Gln Gln  
 755 760 765  
 Glu Leu Val Gln Lys Glu Glu Ser Thr Val Phe Ser Gln Ala Ile His  
 770 775 780  
 Tyr Ala Asn Arg Met Ser Tyr Leu Leu Leu Pro Leu Asp Ser Ser Lys  
 785 790 795 800  
 Ser Arg Leu Leu Arg Glu Arg Ala Gly Leu Gly Asp Leu Glu Ser Ala  
 805 810 815  
 Ser Asn Ser Leu Val Thr Asn Ser Met Ala Gly Ser Val Ala Glu Ser  
 820 825 830  
 Tyr Asp Thr Glu Ser Gly Phe Glu Asp Ala Glu Thr Cys Asp Val Ala  
 835 840 845  
 Gly Ala Val Val Arg Phe Ile Asn Arg Phe Val Asp Lys Val Cys Thr  
 850 855 860  
 Glu Ser Gly Val Thr Ser Asp His Leu Lys Gly Leu His Val Met Val  
 865 870 875 880  
 Pro Asp Ile Val Gln Met His Ile Glu Thr Leu Glu Ala Val Gln Arg  
 885 890 895  
 Glu Ser Arg Arg Leu Pro Pro Ile Gln Lys Pro Lys Leu Leu Arg Pro  
 900 905 910  
 Arg Leu Leu Pro Gly Glu Glu Cys Val Leu Asp Gly Leu Arg Val Tyr  
 915 920 925  
 Leu Leu Pro Asp Gly Arg Glu Glu Gly Ala Gly Gly Ser Ala Gly Gly  
 930 935 940

Pro Ala Leu Leu Pro Ala Glu Gly Ala Val Phe Leu Thr Thr Tyr Arg  
 945 950 955 960  
 Val Ile Phe Thr Gly Met Pro Thr Asp Pro Leu Val Gly Glu Gln Val  
 965 970 975  
 Val Val Arg Ser Phe Pro Val Ala Ala Leu Thr Lys Glu Lys Arg Ile  
 980 985 990  
 Ser Val Gln Thr Pro Val Asp Gln Leu Leu Gln Asp Gly Leu Gln Leu  
 995 1000 1005  
 Arg Ser Cys Thr Phe Gln Leu Leu Lys Met Ala Phe Asp Glu Glu Val  
 1010 1015 1020  
 Gly Ser Asp Ser Ala Glu Leu Phe Arg Lys Gln Leu His Lys Leu Arg  
 1025 1030 1035 1040  
 Tyr Pro Pro Asp Ile Arg Ala Thr Phe Ala Phe Thr Leu Gly Ser Ala  
 1045 1050 1055  
 His Thr Pro Gly Arg Pro Pro Arg Val Thr Lys Asp Lys Gly Pro Ser  
 1060 1065 1070  
 Leu Arg Thr Leu Ser Arg Asn Leu Val Lys Asn Ala Lys Lys Thr Ile  
 1075 1080 1085  
 Gly Arg Gln His Val Thr Arg Lys Lys Tyr Asn Pro Pro Ser Trp Glu  
 1090 1095 1100  
 His Arg Gly Gln Pro Pro Pro Glu Asp Gln Glu Asp Glu Ile Ser Val  
 1105 1110 1115 1120  
 Ser Glu Glu Leu Glu Pro Ser Thr Leu Thr Pro Ser Ser Ala Leu Lys  
 1125 1130 1135  
 Pro Ser Asp Arg Met Thr Met Ser Ser Leu Val Glu Arg Ala Cys Cys  
 1140 1145 1150  
 Arg Asp Tyr Gln Arg Leu Gly Leu Gly Thr Leu Ser Ser Ser Leu Ser  
 1155 1160 1165  
 Arg Ala Lys Ser Glu Pro Phe Arg Ile Ser Pro Val Asn Arg Met Tyr  
 1170 1175 1180  
 Ala Ile Cys Arg Ser Tyr Pro Gly Leu Leu Ile Val Pro Gln Ser Val  
 1185 1190 1195 1200  
 Gln Asp Asn Ala Leu Gln Arg Val Ser Arg Cys Tyr Arg Gln Asn Arg  
 1205 1210 1215  
 Phe Pro Val Val Cys Trp Arg Ser Gly Arg Ser Lys Ala Val Leu Leu  
 1220 1225 1230  
 Arg Ser Gly Gly Leu His Gly Lys Gly Val Val Gly Leu Phe Lys Ala  
 1235 1240 1245

Gln Asn Ala Pro Ser Pro Gly Gln Ser Gln Ala Asp Ser Ser Ser Leu  
 1250 1255 1260

Glu Gln Glu Lys Tyr Leu Gln Ala Val Val Ser Ser Met Pro Arg Tyr  
 1265 1270 1275 1280

Ala Asp Ala Ser Gly Arg Asn Thr Leu Ser Gly Phe Ser Ser Ala His  
 1285 1290 1295

Met Gly Ser His Val Pro Ser Pro Arg Ala Arg Val Thr Thr Leu Ser  
 1300 1305 1310

Asn Pro Met Ala Ala Ser Ala Ser Arg Arg Thr Ala Pro Arg Gly  
 1315 1320 1325

<210> 71

<211> 1123

<212> PRT

<213> Homo sapiens

<400> 71

Arg Phe Pro Gln Lys Asp Trp Asp Asp Thr Pro Phe Pro Gln Gly Ile  
 1 5 10 15

Glu Leu Phe Cys Gln Pro Gly Gly Trp Gln Leu Ser Arg Glu Arg Lys  
 20 25 30

Gln Pro Thr Phe Phe Val Val Val Leu Thr Asp Ile Asp Ser Asp Arg  
 35 40 45

His Tyr Cys Ser Cys Leu Thr Phe Tyr Glu Ala Glu Ile Asn Leu Gln  
 50 55 60

Gly Thr Lys Lys Glu Glu Ile Glu Gly Glu Ala Lys Val Ser Gly Leu  
 65 70 75 80

Ile Gln Pro Ala Glu Val Phe Ala Pro Lys Ser Leu Val Leu Val Ser  
 85 90 95

Arg Leu Tyr Tyr Pro Glu Ile Phe Arg Ala Cys Leu Gly Leu Ile Tyr  
 100 105 110

Thr Val Tyr Val Asp Ser Leu Asn Val Ser Leu Glu Ser Leu Ile Ala  
 115 120 125

Asn Leu Cys Ala Cys Leu Val Pro Ala Ala Gly Gly Ser Gln Lys Leu  
 130 135 140

Phe Ser Leu Gly Ala Gly Asp Arg Gln Leu Ile Gln Thr Pro Leu His  
 145 150 155 160

Asp Ser Leu Pro Ile Thr Gly Thr Ser Val Ala Leu Leu Phe Gln Gln  
 165 170 175

Leu Gly Ile Gln Asn Val Leu Ser Leu Phe Cys Ala Val Leu Thr Glu  
 180 185 190



Asn Lys Val Leu Phe His Ser Ala Ser Phe Gln Arg Leu Ser Asp Ala  
 195 200 205  
 Cys Arg Ala Leu Glu Ser Leu Met Phe Pro Leu Lys Tyr Ser Tyr Pro  
 210 215 220  
 Tyr Ile Pro Ile Leu Pro Ala Gln Leu Leu Glu Val Leu Ser Ser Pro  
 225 230 235 240  
 Thr Pro Phe Ile Ile Gly Val His Ser Val Phe Lys Thr Asp Val His  
 245 250 255  
 Glu Leu Leu Asp Val Ile Ile Ala Asp Leu Asp Gly Gly Thr Ile Lys  
 260 265 270  
 Ile Pro Glu Cys Ile His Leu Ser Ser Leu Pro Glu Pro Leu Leu His  
 275 280 285  
 Gln Thr Gln Ser Ala Leu Ser Leu Ile Leu His Pro Asp Leu Glu Val  
 290 295 300  
 Ala Asp His Ala Phe Pro Pro Pro Arg Thr Ala Leu Ser His Ser Lys  
 305 310 315 320  
 Met Leu Asp Lys Glu Val Arg Ala Val Phe Leu Arg Leu Phe Ala Gln  
 325 330 335  
 Leu Phe Gln Gly Tyr Arg Ser Cys Leu Gln Leu Ile Arg Ile His Ala  
 340 345 350  
 Glu Pro Val Ile His Phe His Lys Thr Ala Phe Leu Gly Gln Arg Gly  
 355 360 365  
 Leu Val Glu Asn Asp Phe Leu Thr Lys Val Leu Ser Gly Met Ala Phe  
 370 375 380  
 Ala Gly Phe Val Ser Glu Arg Gly Pro Pro Tyr Arg Ser Cys Asp Leu  
 385 390 395 400  
 Phe Asp Glu Leu Val Ala Phe Glu Val Glu Arg Ile Lys Val Glu Glu  
 405 410 415  
 Asn Asn Pro Val Lys Met Ile Lys His Val Arg Glu Leu Ala Glu Gln  
 420 425 430  
 Leu Phe Lys Asn Glu Asn Pro Asn Pro His Met Ala Phe Gln Lys Val  
 435 440 445  
 Pro Arg Pro Thr Glu Gly Ser His Leu Arg Val His Ile Leu Pro Phe  
 450 455 460  
 Pro Glu Ile Asn Glu Ala Arg Val Gln Glu Leu Ile Gln Glu Asn Val  
 465 470 475 480  
 Ala Lys Asn Gln Asn Ala Pro Pro Ala Thr Arg Ile Glu Lys Lys Cys  
 485 490 495

Val Val Pro Ala Gly Pro Pro Val Val Ser Ile Met Asp Lys Val Thr  
500 505 510  
Thr Val Phe Asn Ser Ala Gln Arg Leu Glu Val Val Arg Asn Cys Ile  
515 520 525  
Ser Phe Ile Phe Glu Asn Lys Ile Leu Glu Thr Glu Lys Thr Leu Pro  
530 535 540  
Ala Ala Leu Arg Ala Leu Lys Gly Lys Ala Ala Arg Gln Cys Leu Thr  
545 550 555 560  
Asp Glu Leu Gly Leu His Val Gln Gln Asn Arg Ala Ile Leu Asp His  
565 570 575  
Gln Gln Phe Asp Tyr Ile Ile Arg Met Met Asn Cys Thr Leu Gln Asp  
580 585 590  
Cys Ser Ser Leu Glu Glu Tyr Asn Ile Ala Ala Ala Leu Leu Pro Leu  
595 600 605  
Thr Ser Ala Phe Tyr Arg Lys Leu Ala Pro Gly Val Ser Gln Phe Ala  
610 615 620  
Tyr Thr Cys Val Gln Asp His Pro Ile Trp Thr Asn Gln Gln Phe Trp  
625 630 635 640  
Glu Thr Thr Phe Tyr Asn Ala Val Gln Glu Gln Val Arg Ser Leu Tyr  
645 650 655  
Leu Ser Ala Lys Glu Asp Asn His Ala Pro His Leu Lys Gln Lys Asp  
660 665 670  
Lys Leu Pro Asp Asp His Tyr Gln Glu Lys Thr Ala Met Asp Leu Ala  
675 680 685  
Ala Glu Gln Leu Arg Leu Trp Pro Thr Leu Ser Lys Ser Thr Gln Gln  
690 695 700  
Glu Leu Val Gln His Glu Glu Ser Thr Val Phe Ser Gln Ala Ile His  
705 710 715 720  
Phe Ala Asn Leu Met Val Asn Leu Leu Val Pro Leu Asp Thr Ser Lys  
725 730 735  
Asn Lys Leu Leu Arg Thr Ser Ala Pro Gly Asp Trp Glu Ser Gly Ser  
740 745 750  
Asn Ser Ile Val Thr Asn Ser Ile Ala Gly Ser Val Ala Glu Ser Tyr  
755 760 765  
Asp Thr Glu Ser Gly Phe Glu Asp Ser Glu Asn Thr Asp Ile Ala Asn  
770 775 780  
Ser Val Val Arg Phe Ile Thr Arg Phe Ile Asp Lys Val Cys Thr Glu  
785 790 795 800

Ser Gly Val Thr Gln Asp His Ile Lys Ser Leu His Cys Met Ile Pro  
 805 810 815  
 Gly Ile Val Ala Met His Ile Glu Thr Leu Glu Ala Val His Arg Glu  
 820 825 830  
 Ser Arg Arg Leu Pro Pro Ile Gln Lys Pro Lys Ile Leu Arg Pro Ala  
 835 840 845  
 Leu Leu Pro Gly Glu Glu Ile Val Cys Glu Gly Leu Arg Val Leu Leu  
 850 855 860  
 Asp Pro Asp Gly Arg Glu Glu Ala Thr Gly Gly Leu Leu Gly Gly Pro  
 865 870 875 880  
 Gln Leu Leu Pro Ala Glu Gly Ala Leu Phe Leu Thr Thr Tyr Arg Ile  
 885 890 895  
 Leu Phe Arg Gly Thr Pro His Asp Gln Leu Val Gly Glu Gln Thr Val  
 900 905 910  
 Val Arg Ser Phe Pro Ile Ala Ser Ile Thr Lys Glu Lys Lys Ile Thr  
 915 920 925  
 Met Gln Asn Gln Leu Gln Gln Asn Met Gln Glu Gly Leu Gln Ile Thr  
 930 935 940  
 Ser Ala Ser Phe Gln Leu Ile Lys Val Ala Phe Asp Glu Glu Val Ser  
 945 950 955 960  
 Pro Glu Val Val Glu Ile Phe Lys Lys Gln Leu Met Lys Phe Arg Tyr  
 965 970 975  
 Pro Gln Ser Ile Phe Ser Thr Phe Ala Phe Ala Ala Gly Gln Thr Thr  
 980 985 990  
 Pro Gln Ile Ile Leu Pro Lys Gln Lys Glu Lys Asn Thr Ser Phe Arg  
 995 1000 1005  
 Thr Phe Ser Lys Thr Ile Val Lys Gly Ala Lys Arg Ala Gly Lys Met  
 1010 1015 1020  
 Thr Ile Gly Arg Gln Tyr Leu Leu Lys Lys Lys Thr Gly Thr Ile Val  
 1025 1030 1035 1040  
 Glu Glu Arg Val Asn Arg Pro Gly Trp Asn Glu Asp Asp Asp Val Ser  
 1045 1050 1055  
 Val Ser Asp Glu Ser Glu Leu Pro Thr Ser Thr Thr Leu Lys Ala Ser  
 1060 1065 1070  
 Glu Lys Ser Thr Met Glu Gln Leu Val Glu Lys Ala Cys Phe Arg Asp  
 1075 1080 1085  
 Tyr Gln Arg Leu Gly Leu Gly Thr Ile Ser Gly Ser Ser Ser Arg Ser  
 1090 1095 1100

Arg Pro Glu Tyr Phe Arg Ile Thr Ala Ser Asn Arg Met Tyr Ser Leu  
 1105 1110 1115 1120

Cys Arg Arg

<210> 72

<211> 1728

<212> PRT

<213> Drosophila melanogaster

<400> 72

Met Thr Glu Asn Lys Ile Leu Phe Leu Ser Lys Cys Tyr Trp His Leu  
 1 5 10 15

Thr Asp Ser Cys Arg Ala Leu Val Ala Leu Met Tyr Pro Phe Arg Tyr  
 20 25 30

Thr His Val Tyr Ile Pro Ile Leu Pro Ala Pro Leu Thr Glu Val Leu  
 35 40 45

Ser Thr Pro Thr Pro Phe Ile Met Gly Ile His Ser Ser Leu Gln Thr  
 50 55 60

Glu Ile Thr Asp Leu Leu Asp Val Ile Val Val Asp Leu Asp Gly Gly  
 65 70 75 80

Leu Val Thr Ile Pro Glu Ser Leu Thr Pro Pro Val Pro Ile Leu Pro  
 85 90 95

Ser Pro Leu Trp Glu Gln Thr Gln Asp Leu Leu Ser Met Ile Leu Phe  
 100 105 110

Pro Asn Leu Ala Gln Ala Asp Leu Ala Phe Pro Thr Leu Glu Arg Pro  
 115 120 125

Ser Ala Ile Ala Lys Thr Asp Ala Gln Ile Asp Lys Glu Leu Arg Ala  
 130 135 140

Ile Phe Met Arg Leu Phe Ala Gln Leu Leu Gln Gly Tyr Arg Ser Cys  
 145 150 155 160

Leu Thr Ile Ile Arg Ile His Pro Lys Pro Val Ile Thr Phe His Lys  
 165 170 175

Ala Gly Phe Leu Gly Ala Arg Asp Leu Ile Glu Ser Glu Phe Leu Phe  
 180 185 190

Arg Val Leu Asp Ser Met Phe Phe Thr Thr Phe Val Asn Glu Arg Gly  
 195 200 205

Pro Pro Trp Arg Ser Ser Asp Ala Trp Asp Glu Leu Tyr Ser Ser Met  
 210 215 220

Asn Glu Leu Leu Lys Ser Glu Ala Gln Asn Arg Asn Leu Ile Leu Thr

225	230	235	240
His Ile Gln Glu Leu Gly Arg Val Leu Tyr Glu Asn Glu Gly Thr Leu	245	250	255
Ala His Ile Ser Tyr Ala Gln Lys Val Leu Arg Pro Pro Glu Gly Ala	260	265	270
Phe Gln Arg Ile His Gln Pro Ala Phe Pro Arg Ile Ser Ser Glu Lys	275	280	285
Val Glu Leu Ile Ile Gln Glu Gly Ile Arg Lys Asn Gly Val Pro Gln	290	295	300
Arg Phe His Val Thr Arg Asn Gln His Arg Ile Ile Pro Met Gly Pro	305	310	315
Arg Leu Pro Glu Ala Leu Asp Val Arg Pro Asn Val Gln Asn Ser Ala	325	330	335
Arg Arg Leu Glu Val Leu Arg Ile Cys Val Ser Tyr Ile Phe Glu Asn	340	345	350
Arg Ile Thr Asp Ala Arg Lys Leu Leu Pro Ala Val Met Arg Thr Leu	355	360	365
Met His Arg Asp Ala Arg Leu Ile Leu Cys Arg Glu Phe Phe Gly Tyr	370	375	380
Val His Gly Asn Lys Ala Val Leu Asp His Gln Gln Phe Glu Leu Val	385	390	395
Val Arg Phe Met Asn Lys Ala Leu Gln Lys Ser Ser Gly Ile Asp Glu	405	410	415
Tyr Thr Val Ala Ala Ala Leu Leu Pro Met Ser Thr Ile Phe Cys Arg	420	425	430
Lys Leu Ser Thr Gly Val Val Gln Phe Ala Tyr Thr Glu Ile Gln Asp	435	440	445
His Ala Ile Trp Lys Asn Leu Gln Phe Trp Glu Ser Thr Phe Phe Gln	450	455	460
Asp Val Gln Gly Gln Ile Lys Ala Leu Tyr Leu Leu His Arg Arg Gln	465	470	475
Asn Glu His Gln Lys Glu Ala Asn Cys Val Leu Asp Glu Val Pro Leu	485	490	495
Glu Glu Pro Thr Ala Leu Glu Ile Thr Ala Glu Gln Leu Arg Lys Ser	500	505	510
Pro Asn Ile Glu Glu Glu Lys Lys Ala Glu Leu Ala Lys Ser Glu Glu	515	520	525
Ser Thr Leu Tyr Ser Gln Ala Ile His Phe Ala Asn Arg Met Val Ser			

530	535	540
Leu 545	Leu Ile Pro Leu Asp Val Asn Val Asp Ala 555	Ala Ser Lys Pro Lys 560
Pro 565	Ala Phe Arg Leu Glu Glu Asn Gln Ser Val Ser Asn Ser Ile Met 575	
Gly 580	Ser His Ser Leu Ser Glu His Ser Asp Glu Gly Phe Glu Glu Asn 590	
Asn 595	Ala Leu Glu Ile Gly Val Thr Val Gly Lys Thr Ile Ser Arg Phe 605	
Ile 610	Asp Cys Val Cys Thr Glu Gly Gly Val Thr Ser Glu His Ile Arg 620	
Asn 625	Leu His Asp Met Val Pro Gly Val Val His Met His Ile Glu Ser 640	
Leu 645	Glu Pro Val Tyr Leu Glu Ala Lys Arg His Pro His Val Gln Lys 655	
Pro 660	Lys Ile Gln Thr Pro Cys Leu Leu Pro Gly Glu Asp Leu Val Thr 670	
Asp 675	His Leu Arg Cys Phe Leu Met Pro Asp Gly Arg Glu Asp Glu Thr 685	
Gln 690	Cys Leu Ile Pro Ala Glu Gly Ala Leu Phe Leu Thr Asn Tyr Arg 700	
Val 705	Ile Phe Lys Gly Ser Pro Cys Asp Pro Leu Phe Cys Glu Gln Val 720	
Ile 725	Val Arg Thr Phe Pro Ile Ala Ser Leu Leu Lys Glu Lys Lys Ile 735	
Ser 740	Val Leu Tyr Leu Ala His Leu Asp Gln Thr Leu Thr Glu Gly Leu 750	
Gln 755	Leu Arg Ser Ser Ser Phe Gln Leu Ile Lys Val Ala Phe Asp Pro 765	
Glu 770	Val Thr Pro Glu Gln Ile Glu Ser Phe Arg Lys Ile Leu Ser Lys 780	
Ala 785	Arg His Pro Phe Asp Glu Phe Glu Tyr Phe Ala Phe Gln Ser Tyr 800	
Gly 805	Thr Met Leu Gln Gly Val Ala Pro Leu Lys Thr Lys Glu Lys Tyr 815	
Ser 820	Thr Leu Lys Gly Phe Ala Lys Lys Thr Leu Leu Arg Gly Ala Lys 830	
Lys	Ala Gly Phe Lys Gln Lys Gln Gln Thr Lys Arg Lys Leu Val Ser	

835					840					845									
Asp	Tyr	Asp	Tyr	Gly	Ser	Ala	Asp	Ala	Gln	Glu	Thr	Gln	Ser	Ile	Asp				
850					855					860									
Asp	Glu	Leu	Glu	Asp	Gly	Asp	Glu	Phe	Glu	Thr	Gln	Asn	Asn	Ala	Met				
865					870					875					880				
Pro	Arg	Leu	Leu	Thr	Thr	Lys	Asp	Val	Glu	Arg	Met	Arg	Glu	Arg	Ser				
885					890					895									
Tyr	Val	Gln	Asp	Trp	Lys	Arg	Leu	Gly	Phe	Asp	Ala	Glu	Ser	Gln	Arg				
900					905					910									
Gly	Phe	Arg	Ile	Ser	Asn	Ala	Asn	Thr	Ser	Tyr	Ala	Thr	Cys	Arg	Ser				
915					920					925									
Tyr	Pro	Ala	Ile	Ile	Val	Ala	Pro	Val	Gln	Cys	Ser	Asp	Ala	Ala	Ile				
930					935					940									
Met	His	Leu	Gly	Arg	Cys	Phe	Lys	Gly	Gln	Arg	Ile	Pro	Leu	Pro	Thr				
945					950					955					960				
Trp	Arg	His	Ala	Asn	Gly	Ala	Leu	Leu	Ile	Arg	Gly	Gly	Gln	Pro	Asn				
965					970					975									
Ser	Lys	Ser	Val	Ile	Gly	Met	Leu	Lys	Asn	Thr	Thr	Gly	Ser	Thr	Thr				
980					985					990									
Asn	Ala	His	His	Asp	Val	Thr	His	Tyr	Pro	Glu	Gln	Asp	Lys	Tyr	Phe				
995					1000					1005									
Leu	Ala	Leu	Ile	Asn	Thr	Met	Pro	Lys	Leu	Thr	Pro	Leu	Ala	Leu	Asn				
1010					1015					1020									
Gln	Tyr	Ser	Gly	Met	Asn	Leu	Ser	Met	Ser	Ser	Leu	Met	Gly	His	Ser				
1025					1030					1035					1040				
Ser	Ser	Asp	Asp	Arg	Gln	Pro	Leu	Thr	Pro	Glu	Leu	Ser	Arg	Lys	His				
1045					1050					1055									
Lys	Asn	Asn	Leu	Asp	Ile	Ser	Asp	Gly	Asn	Lys	Ser	Ser	Gln	Gly	Gly				
1060					1065					1070									
Lys	Gly	Gly	Thr	Met	Lys	Gly	Asn	Pro	Lys	Asn	Ser	Leu	Ala	His	Pro				
1075					1080					1085									
Phe	Arg	Lys	Met	Arg	Leu	Tyr	Ala	Leu	Gly	Glu	Lys	Ser	Gln	Ala	Lys				
1090					1095					1100									
Ser	Asn	Met	Asn	Val	Asp	Phe	Cys	Ala	Asp	Phe	Ile	Pro	Val	Asp	Tyr				
1105					1110					1115					1120				
Pro	Asp	Ile	Arg	Gln	Ser	Arg	Pro	Ala	Phe	Lys	Lys	Leu	Ile	Arg	Ala				
1125					1130					1135									
Cys	Met	Pro	Ser	His	Asn	Thr	Asn	Glu	Ala	Asp	Gly	Gln	Ser	Phe	Ala				

1140	1145	1150
Lys Met Val Glu Gln Ser Asp Trp Leu Gln Gln Ile Ser Ser Leu Met		
1155	1160	1165
Gln Leu Ser Gly Ala Val Val Asp Leu Ile Asp Leu Gln Glu Ser Ser		
1170	1175	1180
Val Met Leu Ser Leu Glu Asp Gly Ser Asp Val Thr Ala Gln Leu Ser		
1185	1190	1195
Ser Ile Ala Gln Leu Cys Leu Asp Pro Tyr Tyr Arg Ser Leu Asp Gly		
1205	1210	1215
Phe Arg Val Leu Val Glu Lys Glu Trp Leu Ala Phe Gly His Arg Phe		
1220	1225	1230
Ala His Arg Ser Asn Leu Lys Pro Ser His Ala Asn Thr Asn Ile Ala		
1235	1240	1245
Phe Ala Pro Thr Phe Leu Gln Phe Leu Asp Val Val His Gln Leu Gln		
1250	1255	1260
Arg Gln Phe Pro Met Ala Phe Glu Phe Asn Asp Phe Tyr Leu Arg Phe		
1265	1270	1275
Leu Ala Tyr His Ser Val Ser Cys Arg Phe Arg Thr Phe Leu Phe Asp		
1285	1290	1295
Cys Glu Leu Glu Arg Ser Asp Ser Gly Ile Ala Ala Met Glu Asp Lys		
1300	1305	1310
Arg Gly Ser Leu Asn Ala Lys His Met Phe Gly Ala Gly Gly Met Ala		
1315	1320	1325
Thr Asn Gly Ser Asp Asp Glu Cys Ser Val Tyr Pro Leu Asp Ile Arg		
1330	1335	1340
Ser Gln Arg Ala Pro Ala Pro Leu Asn Arg Ile Gly His Ser Ile Phe		
1345	1350	1355
Asp Tyr Ile Glu Arg Gln His Asn Lys Thr Pro Ile Phe Tyr Asn Phe		
1365	1370	1375
Leu Tyr Ser Gly Asp Lys Ser Val Thr Leu Arg Pro Gln Asn Asn Val		
1380	1385	1390
Ala Ala Leu Asp Leu Trp Cys Tyr Tyr Thr Asn Glu Glu Leu Ala Gln		
1395	1400	1405
Gly Ala Pro Tyr Asp Leu Glu Val Thr Thr Val Asp Asp Glu Ile Asp		
1410	1415	1420
Leu Ser Glu Thr Lys Gly Lys Arg Met Val Ile Thr Ala Gly Tyr Asp		
1425	1430	1435
Asn Met Glu Lys Cys Asn Pro Ser Ala Tyr Val Cys Leu Leu Ser Glu		



1445	1450	1455
Val Lys Gln Ala Glu Thr Glu Arg Gly His Leu Pro Gln Lys Trp Leu		
1460	1465	1470
Gln Val Trp Asn Ser Leu Glu Val Pro Gln Leu Glu Pro Val Ala Arg		
1475	1480	1485
Asn Thr Ser Leu Gly Asn Ile Phe Val Gln Thr His Gln His Lys Arg		
1490	1495	1500
Ser Thr Leu Glu Ile Ile Met Lys Gly Arg Leu Ala Gly Tyr Gln Asp		
1505	1510	1515
Lys Tyr Phe His Pro His Arg Phe Glu Lys His Pro Tyr Thr Thr Pro		
	1525	1530
Thr Asn Cys Asn His Cys Thr Lys Leu Leu Trp Gly Pro Val Gly Tyr		
	1540	1545
Arg Cys Met Asp Cys Gly Asn Ser Tyr His Glu Lys Cys Thr Glu His		
	1555	1560
Ser Met Lys Asn Cys Thr Lys Tyr Lys Ala Ile Asp Gly Ala Val Gly		
	1570	1580
Pro Pro Asn Val Asn Met Ser Gln Gly Asp Thr Ala Ser Ile Ala Ser		
1585	1590	1595
Ser Ala Ala Thr Thr Ala Arg Thr Ser Ser His His Phe Tyr Asn Gln		
	1605	1610
Phe Ser Ser Asn Val Ala Glu Asn Arg Thr His Glu Gly His Leu Tyr		
	1620	1625
Lys Arg Gly Ala Leu Leu Lys Gly Trp Lys Gln Arg Trp Phe Val Leu		
	1635	1640
Asp Ser Ile Lys His Gln Leu Arg Tyr Tyr Asp Thr Ser Glu Asp Thr		
	1650	1655
Ala Pro Lys Gly Ile Ile Glu Leu Ala Glu Val Gln Ser Val Thr Ala		
1665	1670	1675
Ala Gln Pro Ala Gln Ile Gly Ala Lys Gly Val Asp Glu Lys Gly Phe		
	1685	1690
Phe Asp Leu Lys Thr Ser Lys Arg Ile Tyr Asn Phe Tyr Ala Ile Asn		
	1700	1705
Ala Asn Leu Ala Gln Glu Trp Ile Glu Lys Leu Gln Ala Cys Leu Gln		
	1715	1720

<210> 73  
 <211> 146  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DENN Consensus Sequence

<400> 73

Leu	Leu	Ser	Ser	Pro	Phe	Pro	Ala	Pro	Gly	Lys	Thr	Leu	Arg	Phe	Ile
1				5					10					15	
Glu	Leu	Leu	Pro	Thr	Asp	Gly	Asn	Asp	Val	Leu	Glu	Leu	Ala	Arg	Pro
			20					25					30		
Asp	Pro	Ser	Arg	Leu	Pro	Leu	Val	Asp	Ala	Ser	Phe	His	Ile	Leu	Phe
		35					40					45			
Gln	Ala	Leu	Gly	Val	Asp	Gln	Cys	Leu	Arg	Val	Leu	Ala	Ser	Leu	Leu
	50					55					60				
Leu	Glu	His	Lys	Ile	Leu	Phe	His	Ser	Arg	Lys	Leu	Ser	Thr	Leu	Ser
65				70						75					80
Ser	Cys	Cys	Glu	Ala	Val	Val	Ala	Leu	Leu	Tyr	Pro	Phe	Glu	Trp	Gln
				85					90					95	
Cys	Pro	Tyr	Ile	Pro	Leu	Leu	Pro	Ala	Ser	Leu	Ala	Asp	Val	Leu	Leu
			100					105					110		
Ala	Pro	Thr	Pro	Tyr	Leu	Ile	Gly	Val	Pro	Ser	Ser	Phe	Phe	Asp	Asn
		115					120						125		
Lys	Leu	Leu	Glu	Leu	Pro	Pro	Ser	Asp	Val	Ile	Cys	Val	Asp	Leu	Asp
	130						135				140				
Thr	Asn														
145															

<210> 74  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Pleckstrin homology domain Consensus Sequence

<400> 74

Val	Ile	Lys	Glu	Gly	Trp	Leu	Leu	Lys	Lys	Ser	Ser	Gly	Gly	Lys	Lys
1				5					10					15	
Ser	Trp	Lys	Lys	Arg	Tyr	Phe	Val	Leu	Phe	Asn	Gly	Val	Leu	Leu	Tyr
			20						25				30		

Tyr Lys Ser Lys Lys Lys Lys Ser Ser Ser Lys Pro Lys Gly Ser Ile  
           35                          40                          45  
 Pro Leu Ser Gly Cys Thr Val Arg Glu Ala Pro Asp Ser Asp Ser Asp  
           50                          55                          60  
 Lys Lys Lys Asn Cys Phe Glu Ile Val Thr Pro Asp Arg Lys Thr Leu  
           65                          70                          75                          80  
 Leu Leu Gln Ala Glu Ser Glu Glu Glu Arg Lys Glu Trp Val Glu Ala  
                           85                          90                          95  
 Leu Arg Lys Ala Ile Ala Lys Leu  
                           100

<210> 75  
 <211> 100  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Pleckstrin  
           homology domain Consensus Sequence

<400> 75  
 Ile Val Lys Glu Gly Trp Leu Leu Lys Lys Ser Thr Val Lys Lys Lys  
   1                          5                          10                          15  
 Arg Trp Lys Lys Arg Tyr Phe Phe Leu Phe Asn Asp Val Leu Ile Tyr  
           20                          25                          30  
 Tyr Lys Asp Lys Lys Lys Ser Tyr Glu Pro Lys Gly Ser Ile Pro Leu  
           35                          40                          45  
 Ser Gly Cys Ser Val Glu Asp Val Pro Asp Ser Glu Phe Lys Arg Pro  
           50                          55                          60  
 Asn Cys Phe Gln Leu Arg Ser Arg Asp Gly Lys Glu Thr Phe Ile Leu  
   65                          70                          75                          80  
 Gln Ala Glu Ser Glu Glu Glu Arg Gln Asp Trp Ile Lys Ala Ile Gln  
                           85                          90                          95  
 Ser Ala Ile Arg  
                           100

<210> 76  
 <211> 240  
 <212> PRT  
 <213> Mus musculus

<400> 76  
 Met Gln Cys Phe Lys Phe Ile Lys Val Met Met Phe Leu Phe Asn Leu  
   1                          5                          10                          15

Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
                   20                                  25                                  30  
 Ser Val Asp Gly Thr Ser Phe Leu Lys Val Phe Gly Ser Leu Ser Ser  
                   35                                  40                                  45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
                   50                                  55                                  60  
 Ala Val Leu Phe Ile Leu Gly Phe Leu Gly Cys Tyr Gly Ala His Ser  
                   65                                  70                                  75                                  80  
 Glu Asn Lys Cys Val Leu Met Met Phe Phe Ser Ile Leu Leu Ile Ile  
                                   85                                  90                                  95  
 Phe Ile Ala Glu Ile Ala Gly Ala Val Val Ala Leu Val Tyr Thr Thr  
                   100                                  105                                  110  
 Leu Ala Glu Gln Phe Leu Thr Leu Leu Val Val Pro Ala Ile Glu Lys  
                   115                                  120                                  125  
 Asp Tyr Gly Tyr Gln Thr Asp Phe Thr Gln Val Trp Asn Thr Thr Met  
                   130                                  135                                  140  
 Glu Glu Leu His Cys Cys Gly Phe Asn Asn Tyr Thr Asp Phe Asn Ala  
                   145                                  150                                  155                                  160  
 Ser Arg Phe Val Lys Glu Asn Lys Val Phe Pro Pro Pro Cys Cys Ala  
                                   165                                  170                                  175  
 Asn Pro Gly Asn His Thr Val Glu Pro Cys Thr Glu Glu Lys Ala Lys  
                   180                                  185                                  190  
 Ser Met Lys Val Gln Gly Cys Phe Lys Glu Ile Leu His Arg Ile Arg  
                   195                                  200                                  205  
 Ala Asn Ala Val Thr Val Gly Gly Val Ala Val Gly Val Ala Ala Leu  
                   210                                  215                                  220  
 Glu Leu Ala Ala Met Val Val Ser Met Tyr Leu Tyr Cys Asn Leu Lys  
                   225                                  230                                  235                                  240

<210> 77  
 <211> 241  
 <212> PRT  
 <213> Homo sapiens

<400> 77  
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu  
   1                                  5                                  10                                  15  
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
                   20                                  25                                  30

Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser  
 35 40 45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
 50 55 60  
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr  
 65 70 75 80  
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile  
 85 90 95  
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr  
 100 105 110  
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys  
 115 120 125  
 Asp Tyr Gly Ser Gln Glu Asp Phe Thr Gln Val Trp Asn Thr Thr Met  
 130 135 140  
 Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp  
 145 150 155 160  
 Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn  
 165 170 175  
 Asp Asn Val Thr Asn Thr Ala Asn Glu Thr Cys Thr Glu Gln Lys Ala  
 180 185 190  
 His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile  
 195 200 205  
 Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly  
 210 215 220  
 Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu  
 225 230 235 240  
 Gln

<210> 78  
 <211> 241  
 <212> PRT  
 <213> Homo sapiens

<400> 78  
 Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu  
 1 5 10 15  
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val  
 20 25 30  
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser

35                      40                      45  
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly  
     50                      55                      60  
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr  
     65                      70                      75                      80  
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile  
                     85                      90                      95  
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr  
                     100                      105                      110  
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys  
                     115                      120                      125  
 Asp Tyr Gly Ser Gln Glu Asp Phe Thr Gln Val Trp Asn Thr Thr Met  
     130                      135                      140  
 Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp  
     145                      150                      155                      160  
 Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn  
                     165                      170                      175  
 Asp Asn Val Thr Asn Thr Ala Asn Glu Thr Cys Thr Lys Gln Lys Ala  
                     180                      185                      190  
 His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile  
                     195                      200                      205  
 Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly  
     210                      215                      220  
 Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu  
     225                      230                      235                      240  
 Gln

<210> 79  
 <211> 247  
 <212> PRT  
 <213> Gallus gallus

<400> 79  
 Met Glu Gly Asp Cys Leu Ser Cys Met Lys Tyr Leu Met Phe Leu Phe  
     1                      5                      10                      15  
 Asn Phe Phe Ile Phe Leu Gly Gly Ala Cys Leu Leu Gly Val Gly Ile  
                     20                      25                      30  
 Trp Val Ile Val Asp Pro Thr Gly Phe Arg Glu Ile Val Ala Ala Asn  
                     35                      40                      45

Pro Leu Leu Phe Thr Gly Ala Tyr Ile Met Leu Ala Met Gly Ala Met  
 50 55 60  
 Leu Phe Leu Leu Gly Phe Leu Gly Cys Cys Gly Ala Ile Arg Glu Asn  
 65 70 75 80  
 Lys Cys Leu Leu Leu Phe Phe Phe Met Phe Ile Leu Leu Ile Phe Leu  
 85 90 95  
 Ala Glu Leu Ser Ala Ala Ile Leu Ala Phe Ile Phe Arg Glu Asn Leu  
 100 105 110  
 Thr Arg Glu Phe Phe Thr Lys Glu Leu Lys Lys His Tyr Val Arg Asn  
 115 120 125  
 Asn Asp Thr His Val Phe Ser Ser Thr Trp Asn Ser Val Met Ile Thr  
 130 135 140  
 Phe Ala Cys Cys Gly Val Asn Gly Pro Glu Asp Phe Glu Ala Val Pro  
 145 150 155 160  
 Pro Leu Ser His Leu Pro Leu Glu Glu Thr Thr Pro Glu Ala Cys Cys  
 165 170 175  
 Gln Arg Asn Val Gln Ser Arg Glu Gly Met Phe Val Asn Arg Lys Ala  
 180 185 190  
 Cys Leu Glu Gly Asp Glu Arg Phe Gln Asn Arg Gln Gly Cys Tyr Thr  
 195 200 205  
 Val Ile Leu Asn Ser Phe Glu Thr Tyr Val Tyr Leu Ala Gly Ala Leu  
 210 215 220  
 Ala Ile Gly Val Leu Ala Ile Glu Leu Phe Ala Met Ile Phe Ala Met  
 225 230 235 240  
 Cys Leu Phe Arg Gly Ile Gln  
 245

<210> 80  
 <211> 282  
 <212> PRT  
 <213> Caenorhabditis elegans

<400> 80  
 Met Gly Ser Cys Val Asn Ala Leu Arg Ile Val Thr Phe Leu Phe Asn  
 1 5 10 15  
 Phe Ala Phe Trp Leu Ser Gly Val Val Val Phe Gly Leu Gly Ile Trp  
 20 25 30  
 Leu Leu Phe Asp Pro Ala Ala Ser Asp Phe Phe Ala Leu His Ser Thr  
 35 40 45  
 His Pro Gly Ala Phe Arg Tyr Val Gly Trp Phe Leu Val Gly Ala Gly  
 50 55 60

Ala Ile Ile Ile Leu Val Gly Tyr Phe Gly Cys Ile Gly Ala Trp Lys  
 65 70 75 80  
 Met Asn Gln Cys Ala Leu Ala Phe Phe Cys Cys Ile Leu Ile Leu Ala  
 85 90 95  
 Phe Phe Leu Glu Leu Ala Ala Ala Val Thr Leu Phe His Lys Gln Glu  
 100 105 110  
 His Ile Lys His Tyr Val Glu Ser Ser Met Tyr Asp Thr Ile Arg Asn  
 115 120 125  
 Arg Tyr Ser Ser Glu Thr Ala Phe Lys Asp Ala Phe Asp Thr Val Gln  
 130 135 140  
 Glu Lys Phe Glu Cys Cys Gly Val Lys Thr Tyr Thr Asp Trp Leu Ser  
 145 150 155 160  
 Ala Arg Trp Asp Ala Glu Pro Ser Thr Gln Leu Glu Val Asn Glu Glu  
 165 170 175  
 Asp Ala Gly Arg Ile Glu His Gly Ile Gly Ala Phe Gly Gly Asn Lys  
 180 185 190  
 Gly Thr Gly Tyr Gly Arg Val Pro Ser Ser Cys Cys Asn Glu His Gly  
 195 200 205  
 Lys Leu Ser Tyr Pro Asn Asn Cys Gly Arg Ser Phe Ser Gln Ala Pro  
 210 215 220  
 Leu Asn Thr Tyr Ala Gln Phe Ile Asn Thr Arg Gly Cys Ala Asp Ala  
 225 230 235 240  
 Val Tyr Glu Ser Val Ser Ser Ser Leu Ser Leu Ile Val Gly Val Cys  
 245 250 255  
 Val Val Leu Cys Ile Val Gln Leu Leu Gly Ile Val Leu Ser Met Thr  
 260 265 270  
 Leu Cys Cys Cys Lys Gly Asn Ser Lys Lys  
 275 280

<210> 81  
 <211> 222  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Tetraspanin  
 Family Consensus Sequence

<400> 81  
 Lys Tyr Leu Leu Phe Leu Leu Asn Leu Leu Phe Trp Leu Cys Gly Ile  
 1 5 10 15



Leu Leu Leu Ala Val Gly Ile Trp Leu Leu Val Asp Leu Ser Ser Phe  
           20                          25                          30  
 Ser Glu Leu Leu Gly Ser Leu Ser Ser Leu Val Ala Ala Tyr Val Leu  
           35                          40                          45  
 Ile Ala Val Gly Ala Ile Leu Phe Leu Val Gly Phe Leu Gly Cys Cys  
           50                          55                          60  
 Gly Ala Ile Arg Glu Ser Arg Cys Leu Leu Gly Leu Tyr Phe Val Phe  
           65                          70                          75                          80  
 Leu Leu Leu Ile Phe Ile Leu Glu Val Ala Ala Gly Ile Leu Ala Phe  
                           85                          90                          95  
 Val Phe Arg Asp Lys Leu Glu Ser Ser Leu Asn Glu Ser Leu Lys Asn  
           100                          105                          110  
 Ala Ile Lys Asn Tyr Tyr Asp Thr Asp Pro Asp Glu Arg Asn Ala Trp  
           115                          120                          125  
 Asp Lys Leu Gln Glu Gln Phe Lys Cys Cys Gly Val Asn Gly Tyr Thr  
           130                          135                          140  
 Asp Trp Phe Asp Ser Gln Trp Phe Ser Asn Gly Val Pro Phe Ser Cys  
           145                          150                          155                          160  
 Cys Asn Pro Ser Val Ser Cys Asn Ser Ala Gln Asp Glu Glu Asp Thr  
                           165                          170                          175  
 Ile Tyr Gln Glu Gly Cys Leu Glu Lys Leu Leu Glu Trp Leu Glu Glu  
           180                          185                          190  
 Asn Leu Leu Ile Val Gly Gly Val Ala Leu Gly Ile Ala Leu Ile Gln  
           195                          200                          205  
 Leu Leu Gly Met Ile Leu Ser Cys Cys Leu Cys Cys Ser Ile  
           210                          215                          220

<210> 82  
 <211> 135  
 <212> PRT  
 <213> Bos taurus

<400> 82  
 Met Ala Thr Val Gln Gln Leu Val Gly Arg Trp Arg Leu Val Glu Ser  
           1                          5                          10                          15  
 Lys Gly Phe Asp Glu Tyr Met Lys Glu Val Gly Val Gly Met Ala Leu  
           20                          25                          30  
 Arg Lys Val Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Ser Asp  
           35                          40                          45  
 Gly Lys Asn Leu Ser Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
           50                          55                          60

Phe Ser Cys Lys Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly  
 65 70 75 80  
 Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
 85 90 95  
 His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Glu  
 100 105 110  
 Asp Gly Lys Leu Val Val Val Cys Val Met Asn Asn Val Thr Cys Thr  
 115 120 125  
 Arg Val Tyr Glu Lys Val Glu  
 130 135

<210> 83  
 <211> 135  
 <212> PRT  
 <213> Bos taurus

<400> 83  
 Met Ala Thr Val Gln Gln Leu Val Gly Arg Trp Arg Leu Val Glu Ser  
 1 5 10 15  
 Lys Gly Phe Asp Glu Tyr Met Lys Glu Val Gly Val Gly Met Ala Leu  
 20 25 30  
 Arg Lys Val Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Ser Asp  
 35 40 45  
 Gly Lys Asn Pro Ser Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
 50 55 60  
 Phe Ser Cys Lys Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly  
 65 70 75 80  
 Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
 85 90 95  
 His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Glu  
 100 105 110  
 Asp Gly Lys Leu Val Val Val Cys Val Met Asn Asn Val Thr Cys Thr  
 115 120 125  
 Arg Val Tyr Glu Lys Val Glu  
 130 135

<210> 84  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 84

Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser  
 1 5 10 15  
 Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu  
 20 25 30  
 Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp  
 35 40 45  
 Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
 50 55 60  
 Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly  
 65 70 75 80  
 Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
 85 90 95  
 His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys  
 100 105 110  
 Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr  
 115 120 125  
 Arg Ile Tyr Glu Lys Val Glu  
 130 135

<210> 85  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser  
 1 5 10 15  
 Arg Gly Phe Asp Glu Tyr Val Lys Glu Leu Gly Val Gly Ile Ala Leu  
 20 25 30  
 Arg Lys Met Asp Thr Ile Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp  
 35 40 45  
 Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
 50 55 60  
 Phe Ser Cys Thr Leu Gly Glu Asn Phe Glu Glu Thr Thr Ala Asp Gly  
 65 70 75 80  
 Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln  
 85 90 95  
 His Gln Glu Trp Asp Gly Lys Glu Asn Thr Ile Arg Arg Lys Leu Lys  
 100 105 110  
 Asp Gly Lys Leu Val Val Asp Cys Val Met Asn Ser Val Thr Cys Thr  
 115 120 125

Arg Ile Tyr Glu Lys Val Glu  
 130 135

<210> 86  
 <211> 135  
 <212> PRT  
 <213> Rattus norvegicus

<400> 86  
 Met Ala Ser Leu Lys Asp Leu Glu Gly Lys Trp Arg Leu Val Glu Ser  
 1 5 10 15  
 His Gly Phe Glu Asp Tyr Met Lys Glu Leu Gly Val Gly Leu Ala Leu  
 20 25 30  
 Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Leu Asp  
 35 40 45  
 Gly Asn Asn Leu Thr Val Lys Thr Glu Ser Thr Val Lys Thr Thr Val  
 50 55 60  
 Phe Ser Cys Thr Leu Gly Glu Lys Phe Asp Glu Thr Thr Ala Asp Gly  
 65 70 75 80  
 Arg Lys Thr Glu Thr Val Cys Thr Phe Thr Asp Gly Ala Leu Val Gln  
 85 90 95  
 His Gln Lys Trp Glu Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Asn  
 100 105 110  
 Asp Gly Lys Met Val Val Glu Cys Val Met Asn Asn Ala Ile Cys Thr  
 115 120 125  
 Arg Val Tyr Glu Lys Val Gln  
 130 135

<210> 87  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 87  
 Met Gly Gly Leu Thr Ala Ser Asp Val His Pro Thr Leu Gly Val Gln  
 1 5 10 15  
 Leu Phe Ser Ala Gly Ile Ala Ala Cys Leu Ala Asp Val Ile Thr Phe  
 20 25 30  
 Pro Leu Asp Thr Ala Lys Val Arg Leu Gln Val Gln Gly Glu Cys Pro  
 35 40 45  
 Thr Ser Ser Val Ile Arg Tyr Lys Gly Val Leu Gly Thr Ile Thr Ala  
 50 55 60

Val Val Lys Thr Glu Gly Arg Met Lys Leu Tyr Ser Gly Leu Pro Ala  
 65 70 75 80  
 Gly Leu Gln Arg Gln Ile Ser Ser Ala Ser Leu Arg Ile Gly Leu Tyr  
 85 90 95  
 Asp Thr Val Gln Glu Phe Leu Thr Ala Gly Lys Glu Thr Ala Pro Ser  
 100 105 110  
 Leu Gly Ser Lys Ile Leu Ala Gly Leu Thr Thr Gly Gly Val Ala Val  
 115 120 125  
 Phe Ile Gly Gln Pro Thr Glu Val Val Lys Val Arg Leu Gln Ala Gln  
 130 135 140  
 Ser His Leu His Gly Ile Lys Pro Arg Tyr Thr Gly Thr Tyr Asn Ala  
 145 150 155 160  
 Tyr Arg Ile Ile Ala Thr Thr Glu Gly Leu Thr Gly Leu Trp Lys Gly  
 165 170 175  
 Thr Thr Pro Asn Leu Met Arg Ser Val Ile Ile Asn Cys Thr Glu Leu  
 180 185 190  
 Val Thr Tyr Asp Leu Met Lys Glu Ala Phe Val Lys Asn Asn Ile Leu  
 195 200 205  
 Ala Asp Asp Val Pro Cys His Leu Val Ser Ala Leu Ile Ala Gly Phe  
 210 215 220  
 Cys Ala Thr Ala Met Ser Ser Pro Val Asp Val Val Lys Thr Arg Phe  
 225 230 235 240  
 Ile Asn Ser Pro Pro Gly Gln Tyr Lys Ser Val Pro Asn Cys Ala Met  
 245 250 255  
 Lys Val Phe Thr Asn Glu Gly Pro Thr Ala Phe Phe Lys Gly Leu Val  
 260 265 270  
 Pro Ser Phe Leu Arg Leu Gly Ser Trp Asn Val Ile Met Phe Val Cys  
 275 280 285  
 Phe Glu Gln Leu Lys Arg Glu Leu Ser Lys Ser Arg Gln Thr Met Asp  
 290 295 300  
 Cys Ala Thr  
 305

<210> 88  
 <211> 307  
 <212> PRT  
 <213> Homo sapiens

<400> 88  
 Met Gly Gly Leu Thr Ala Ser Asp Val His Pro Thr Leu Gly Val Gln  
 1 5 10 15

Leu Phe Ser Ala Pro Ile Ala Ala Cys Leu Ala Asp Val Ile Thr Phe  
 20 25 30  
 Pro Leu Asp Thr Ala Lys Val Arg Leu Gln Val Gln Gly Glu Cys Pro  
 35 40 45  
 Thr Ser Ser Val Ile Arg Tyr Lys Gly Val Leu Gly Thr Ile Thr Ala  
 50 55 60  
 Val Val Lys Thr Glu Gly Arg Met Lys Leu Tyr Ser Gly Leu Pro Ala  
 65 70 75 80  
 Gly Leu Gln Arg Gln Ile Ser Ser Ala Ser Leu Arg Ile Gly Leu Tyr  
 85 90 95  
 Asp Thr Val Gln Glu Phe Leu Thr Ala Gly Lys Glu Thr Ala Pro Ser  
 100 105 110  
 Leu Gly Ser Lys Ile Leu Ala Gly Leu Thr Thr Gly Gly Val Ala Val  
 115 120 125  
 Phe Ile Gly Gln Pro Thr Glu Val Val Lys Val Arg Leu Gln Ala Gln  
 130 135 140  
 Ser His Leu His Gly Ile Lys Pro Arg Tyr Thr Gly Thr Tyr Asn Ala  
 145 150 155 160  
 Tyr Arg Ile Ile Ala Thr Thr Glu Gly Leu Thr Gly Leu Trp Lys Gly  
 165 170 175  
 Thr Thr Pro Asn Leu Met Arg Ser Val Ile Ile Asn Cys Thr Glu Leu  
 180 185 190  
 Val Thr Tyr Asp Leu Met Lys Glu Ala Phe Val Lys Asn Asn Ile Leu  
 195 200 205  
 Ala Asp Asp Val Pro Cys His Leu Val Ser Ala Leu Ile Ala Gly Phe  
 210 215 220  
 Cys Ala Thr Ala Met Ser Ser Pro Val Asp Val Val Lys Thr Arg Phe  
 225 230 235 240  
 Ile Asn Ser Pro Pro Gly Gln Tyr Lys Ser Val Pro Asn Cys Ala Met  
 245 250 255  
 Lys Val Phe Thr Asn Glu Gly Pro Thr Ala Phe Phe Lys Gly Leu Val  
 260 265 270  
 Pro Ser Phe Leu Arg Leu Gly Ser Trp Asn Val Ile Met Phe Val Cys  
 275 280 285  
 Phe Glu Gln Leu Lys Arg Glu Leu Ser Lys Ser Arg Gln Thr Met Asp  
 290 295 300  
 Cys Ala Thr  
 305

<210> 89  
 <211> 306  
 <212> PRT  
 <213> Oryzctolagus cuniculus

<400> 89  
 Met Val Gly Thr Thr Thr Thr Asp Val Pro Pro Thr Met Gly Val Lys  
           1                  5                  10                  15  
 Ile Phe Ser Ala Gly Val Ala Ala Cys Leu Ala Asp Val Ile Thr Phe  
           20                  25                  30  
 Pro Leu Asp Thr Ala Lys Val Arg Gln Gln Ile Gln Gly Glu Phe Pro  
           35                  40                  45  
 Ile Thr Ser Gly Ile Arg Tyr Lys Gly Val Leu Gly Thr Ile Thr Thr  
           50                  55                  60  
 Leu Ala Lys Thr Glu Gly Pro Leu Lys Leu Tyr Ser Gly Leu Pro Ala  
           65                  70                  75                  80  
 Gly Leu Gln Arg Gln Ile Ser Phe Ala Ser Leu Arg Ile Gly Leu Tyr  
           85                  90                  95  
 Asp Thr Val Gln Glu Phe Phe Thr Ser Gly Glu Glu Thr Pro Ser Leu  
           100                  105                  110  
 Gly Ser Lys Ile Ser Ala Gly Leu Thr Thr Gly Gly Val Ala Val Phe  
           115                  120                  125  
 Ile Gly Gln Pro Thr Glu Val Val Lys Val Arg Leu Gln Ala Gln Ser  
           130                  135                  140  
 His Leu His Gly Leu Lys Pro Arg Tyr Thr Gly Thr Tyr Asn Ala Tyr  
           145                  150                  155                  160  
 Arg Ile Ile Ala Thr Thr Glu Ser Leu Thr Ser Leu Trp Lys Gly Thr  
           165                  170                  175  
 Thr Pro Asn Leu Leu Arg Asn Val Ile Ile Asn Cys Thr Glu Leu Val  
           180                  185                  190  
 Thr Tyr Asp Leu Met Lys Gly Ala Leu Val Arg Asn Glu Ile Leu Ala  
           195                  200                  205  
 Asp Asp Val Pro Cys His Phe Val Ser Ala Leu Ile Ala Gly Phe Cys  
           210                  215                  220  
 Thr Thr Leu Leu Ser Ser Pro Val Asp Val Val Lys Thr Arg Phe Ile  
           225                  230                  235                  240  
 Asn Ser Pro Pro Gly Gln Tyr Ala Ser Val Pro Asn Cys Ala Met Thr  
           245                  250                  255  
 Met Phe Thr Lys Glu Gly Pro Thr Ala Phe Phe Lys Gly Phe Val Pro





Asp Asp Val Pro Cys His Leu Leu Ser Ala Leu Ile Ala Gly Phe Cys  
 210 215 220

Thr Thr Leu Leu Ser Ser Pro Val Asp Val Val Lys Thr Arg Phe Ile  
 225 230 235 240

Asn Ser Pro Pro Gly Gln Tyr Ala Ser Val Pro Asn Cys Ala Met Thr  
 245 250 255

Met Phe Thr Lys Glu Gly Pro Thr Ala Phe Phe Lys Gly Phe Val Pro  
 260 265 270

Ser Phe Leu Arg Leu Gly Ser Trp Asp Val Ile Met Phe Val Cys Phe  
 275 280 285

Glu Lys Leu Lys Gly Glu Leu Met Arg Ser Arg Gln Thr Val Asp Cys  
 290 295 300

Ala Thr  
 305

<210> 91

<211> 307

<212> PRT

<213> Mesocricetus auratus

<400> 91

Met Val Asn Pro Thr Thr Ser Glu Val His Pro Thr Met Gly Val Lys  
 1 5 10 15

Ile Phe Ser Ala Gly Val Ala Ala Cys Leu Ala Asp Ile Ile Thr Phe  
 20 25 30

Pro Leu Asp Thr Ala Lys Val Arg Leu Gln Ile Gln Gly Glu Gly Gln  
 35 40 45

Ile Ser Ser Thr Ile Arg Tyr Lys Gly Val Leu Gly Thr Ile Thr Thr  
 50 55 60

Leu Ala Lys Thr Glu Gly Leu Pro Lys Leu Tyr Ser Gly Leu Pro Ala  
 65 70 75 80

Gly Ile Gln Arg Gln Ile Ser Phe Ala Ser Leu Arg Ile Gly Leu Tyr  
 85 90 95

Asp Thr Val Gln Glu Tyr Phe Ser Ser Gly Lys Glu Thr Pro Pro Thr  
 100 105 110

Leu Gly Asn Arg Ile Ser Ala Gly Leu Met Thr Gly Gly Val Ala Val  
 115 120 125

Phe Ile Gly Gln Pro Thr Glu Val Val Lys Val Arg Leu Gln Ala Gln  
 130 135 140

Ser His Leu His Gly Ile Lys Pro Arg Tyr Thr Gly Thr Tyr Asn Ala  
 145 150 155 160

Tyr Arg Ile Ile Ala Thr Thr Glu Ser Phe Ser Thr Leu Trp Lys Gly  
 165 170 175  
 Thr Thr Pro Asn Leu Leu Arg Asn Val Ile Ile Asn Cys Val Glu Leu  
 180 185 190  
 Val Thr Tyr Asp Leu Met Lys Gly Ala Leu Val Asn Asn Gln Ile Leu  
 195 200 205  
 Ala Asp Asp Val Pro Cys His Leu Leu Ser Ala Phe Val Ala Gly Phe  
 210 215 220  
 Cys Thr Thr Phe Leu Ala Ser Pro Ala Asp Val Val Lys Thr Arg Phe  
 225 230 235 240  
 Ile Asn Ser Leu Pro Gly Gln Tyr Pro Ser Val Pro Ser Cys Ala Met  
 245 250 255  
 Thr Met Leu Thr Lys Glu Gly Pro Thr Ala Phe Phe Lys Gly Phe Val  
 260 265 270  
 Pro Ser Phe Leu Arg Leu Ala Ser Trp Asn Val Ile Met Phe Val Cys  
 275 280 285  
 Phe Glu Gln Leu Lys Lys Glu Leu Ser Lys Ser Arg Gln Thr Val Asp  
 290 295 300  
 Cys Thr Thr  
 305

<210> 92  
 <211> 96  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Mitochondrial  
 carrier protein Consensus Sequence

<400> 92  
 Ser Pro Leu Ser Phe Leu Ala Ser Leu Leu Ala Gly Gly Ile Ala Gly  
 1 5 10 15  
 Ala Ile Ala Ala Leu Val Thr Tyr Pro Leu Asp Val Val Lys Thr Arg  
 20 25 30  
 Leu Gln Val Gln Gly Ser Ser Ser Lys Tyr Lys Gly Ile Leu Asp Cys  
 35 40 45  
 Phe Lys Lys Ile Val Lys Glu Glu Gly Arg Ala Gly Leu Tyr Lys Gly  
 50 55 60  
 Leu Gly Pro Thr Leu Leu Arg Val Ala Pro Tyr Ala Ala Ile Tyr Phe  
 65 70 75 80

Gly Thr Tyr Glu Gln Leu Lys Lys Leu Leu Gly Lys Lys Leu Gly Glu  
85 90 95

<210> 93  
<211> 96  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mitochondrial  
carrier protein Consensus Sequence

<400> 93  
Ser Pro Leu Ser Phe Leu Ala Ser Leu Leu Ala Gly Gly Ile Ala Gly  
1 5 10 15  
Ala Ile Ala Ala Leu Val Thr Tyr Pro Leu Asp Val Val Lys Thr Arg  
20 25 30  
Leu Gln Val Gln Gly Ser Ser Ser Lys Tyr Lys Gly Ile Leu Asp Cys  
35 40 45  
Phe Lys Lys Ile Val Lys Glu Gly Arg Ala Gly Leu Tyr Lys Gly  
50 55 60  
Leu Gly Pro Thr Leu Leu Arg Val Ala Pro Tyr Ala Ala Ile Tyr Phe  
65 70 75 80  
Gly Thr Tyr Glu Gln Leu Lys Lys Leu Leu Gly Lys Lys Leu Gly Glu  
85 90 95

<210> 94  
<211> 557  
<212> PRT  
<213> Mus musculus

<400> 94  
Met Glu Ser Glu Ser Ser Arg Arg Met Gly Asn Ala Cys Ile Pro Leu  
1 5 10 15  
Lys Arg Ile Ala Tyr Phe Leu Cys Leu Phe Ser Val Val Leu Leu Thr  
20 25 30  
Glu Gly Lys Lys Pro Ala Lys Pro Lys Cys Pro Ala Val Cys Thr Cys  
35 40 45  
Ser Lys Asp Asn Ala Leu Cys Glu Asn Ala Arg Ser Ile Pro Arg Thr  
50 55 60

Val	Pro	Pro	Asp	Val	Ile	Ser	Leu	Ser	Phe	Val	Arg	Ser	Gly	Phe	Thr	65	70	75	80
Glu	Ile	Ser	Glu	Gly	Ser	Phe	Leu	Phe	Thr	Pro	Ser	Leu	Gln	Leu	Leu	85	90	95	
Leu	Phe	Thr	Ser	Asn	Ser	Phe	Asp	Val	Ile	Ser	Asp	Asp	Ala	Phe	Ile	100	105	110	
Gly	Leu	Pro	His	Leu	Glu	Tyr	Leu	Phe	Ile	Glu	Asn	Asn	Asn	Ile	Lys	115	120	125	
Ser	Ile	Ser	Arg	His	Thr	Phe	Arg	Gly	Leu	Lys	Ser	Leu	Ile	His	Leu	130	135	140	
Ser	Leu	Ala	Asn	Asn	Asn	Leu	Gln	Thr	Leu	Pro	Lys	Asp	Ile	Phe	Lys	145	150	155	160
Gly	Leu	Asp	Ser	Leu	Thr	Asn	Val	Asp	Leu	Arg	Gly	Asn	Ala	Phe	Asn	165	170	175	
Cys	Asp	Cys	Lys	Leu	Lys	Trp	Leu	Val	Glu	Trp	Leu	Gly	His	Thr	Asn	180	185	190	
Ala	Thr	Val	Glu	Asp	Ile	Tyr	Cys	Glu	Gly	Pro	Pro	Glu	Tyr	Lys	Lys	195	200	205	
Arg	Lys	Ile	Asn	Ser	Leu	Ser	Pro	Lys	Asp	Phe	Asp	Cys	Ile	Ile	Thr	210	215	220	
Glu	Phe	Ala	Lys	Ser	Gln	Asp	Leu	Pro	Tyr	Gln	Ser	Leu	Ser	Ile	Asp	225	230	235	240
Thr	Phe	Ser	Tyr	Leu	Asn	Asp	Glu	Tyr	Val	Val	Ile	Ala	Gln	Pro	Phe	245	250	255	
Thr	Gly	Lys	Cys	Ile	Phe	Leu	Glu	Trp	Asp	His	Val	Glu	Lys	Thr	Phe	260	265	270	
Arg	Asn	Tyr	Asp	Asn	Ile	Thr	Gly	Thr	Ser	Thr	Val	Val	Cys	Lys	Pro	275	280	285	
Ile	Val	Ile	Asp	Thr	Gln	Leu	Tyr	Val	Ile	Val	Ala	Gln	Leu	Phe	Gly	290	295	300	
Gly	Ser	His	Ile	Tyr	Lys	Arg	Asp	Gly	Phe	Ala	Asn	Lys	Phe	Ile	Lys	305	310	315	320
Ile	Gln	Asp	Ile	Glu	Val	Leu	Lys	Ile	Arg	Lys	Pro	Asn	Asp	Ile	Glu	325	330	335	
Thr	Phe	Lys	Ile	Glu	Asp	Asn	Trp	Tyr	Phe	Val	Val	Ala	Asp	Ser	Ser	340	345	350	
Lys	Ala	Gly	Phe	Thr	Thr	Ile	Tyr	Lys	Trp	Asn	Gly	Asn	Gly	Phe	Tyr	355	360	365	

Ser His Gln Ser Leu His Ala Trp Tyr Arg Asp Thr Asp Val Glu Tyr  
 370 375 380  
 Leu Glu Ile Ala Arg Pro Pro Leu Ala Leu Arg Thr Pro His Leu Ile  
 385 390 395 400  
 Leu Ser Ser Ser Ser Gln Arg Pro Val Ile Tyr Gln Trp Ser Lys Ala  
 405 410 415  
 Thr Gln Leu Phe Thr Asn Gln Thr Asp Ile Pro Asn Met Glu Asp Val  
 420 425 430  
 Tyr Ala Val Lys His Phe Ser Val Lys Gly Asp Val Tyr Ile Cys Leu  
 435 440 445  
 Thr Arg Phe Ile Gly Asp Ser Lys Val Met Lys Trp Gly Gly Ser Ser  
 450 455 460  
 Phe Gln Asp Ile Gln Arg Met Pro Ser Arg Gly Ser Met Val Phe Gln  
 465 470 475 480  
 Pro Leu Gln Ile Asn Asn Tyr Gln Tyr Ala Ile Leu Gly Ser Asp Tyr  
 485 490 495  
 Ser Phe Thr Gln Val Tyr Asn Trp Asp Ala Glu Lys Ala Lys Phe Val  
 500 505 510  
 Lys Phe Gln Glu Leu Asn Val Gln Ala Pro Arg Ser Phe Thr His Val  
 515 520 525  
 Ser Ile Asn Lys Arg Asn Phe Leu Phe Ala Ser Ser Phe Lys Gly Asn  
 530 535 540  
 Thr Gln Ile Tyr Lys His Val Ile Val Asp Leu Ser Ala  
 545 550 555

<210> 95  
 <211> 557  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Met Glu Ser Glu Arg Ser Lys Arg Met Gly Asn Ala Cys Ile Pro Leu  
 1 5 10 15  
 Lys Arg Ile Ala Tyr Phe Leu Cys Leu Leu Ser Ala Leu Leu Leu Thr  
 20 25 30  
 Glu Gly Lys Lys Pro Ala Lys Pro Lys Cys Pro Ala Val Cys Thr Cys  
 35 40 45  
 Thr Lys Asp Asn Ala Leu Cys Glu Asn Ala Arg Ser Ile Pro Arg Thr  
 50 55 60  
 Val Pro Pro Asp Val Ile Ser Leu Ser Phe Val Arg Ser Gly Phe Thr  
 65 70 75 80

Glu Ile Ser Glu Gly Ser Phe Leu Phe Thr Pro Ser Leu Gln Leu Leu  
                     85                    90                    95  
 Leu Phe Thr Ser Asn Ser Phe Asp Val Ile Ser Asp Asp Ala Phe Ile  
                     100                    105                    110  
 Gly Leu Pro His Leu Glu Tyr Leu Phe Ile Glu Asn Asn Asn Ile Lys  
                     115                    120                    125  
 Ser Ile Ser Arg His Thr Phe Arg Gly Leu Lys Ser Leu Ile His Leu  
                     130                    135                    140  
 Ser Leu Ala Asn Asn Asn Leu Gln Thr Leu Pro Lys Asp Ile Phe Lys  
                     145                    150                    155                    160  
 Gly Leu Asp Ser Leu Thr Asn Val Asp Leu Arg Gly Asn Ser Phe Asn  
                     165                    170                    175  
 Cys Asp Cys Lys Leu Lys Trp Leu Val Glu Trp Leu Gly His Thr Asn  
                     180                    185                    190  
 Ala Thr Val Glu Asp Ile Tyr Cys Glu Gly Pro Pro Glu Tyr Lys Lys  
                     195                    200                    205  
 Arg Lys Ile Asn Ser Leu Ser Ser Lys Asp Phe Asp Cys Ile Ile Thr  
                     210                    215                    220  
 Glu Phe Ala Lys Ser Gln Asp Leu Pro Tyr Gln Ser Leu Ser Ile Asp  
                     225                    230                    235                    240  
 Thr Phe Ser Tyr Leu Asn Asp Glu Tyr Val Val Ile Ala Gln Pro Phe  
                     245                    250                    255  
 Thr Gly Lys Cys Ile Phe Leu Glu Trp Asp His Val Glu Lys Thr Phe  
                     260                    265                    270  
 Arg Asn Tyr Asp Asn Ile Thr Gly Thr Ser Thr Val Val Cys Lys Pro  
                     275                    280                    285  
 Ile Val Ile Glu Thr Gln Leu Tyr Val Ile Val Ala Gln Leu Phe Gly  
                     290                    295                    300  
 Gly Ser His Ile Tyr Lys Arg Asp Ser Phe Ala Asn Lys Phe Ile Lys  
                     305                    310                    315                    320  
 Ile Gln Asp Ile Glu Ile Leu Lys Ile Arg Lys Pro Asn Asp Ile Glu  
                     325                    330                    335  
 Thr Phe Lys Ile Glu Asn Asn Trp Tyr Phe Val Val Ala Asp Ser Ser  
                     340                    345                    350  
 Lys Ala Gly Phe Thr Thr Ile Tyr Lys Trp Asn Gly Asn Gly Phe Tyr  
                     355                    360                    365  
 Ser His Gln Ser Leu His Ala Trp Tyr Arg Asp Thr Asp Val Glu Tyr  
                     370                    375                    380

Leu Glu Ile Val Arg Thr Pro Gln Thr Leu Arg Thr Pro His Leu Ile  
 385 390 395 400  
 Leu Ser Ser Ser Ser Gln Arg Pro Val Ile Tyr Gln Trp Asn Lys Ala  
 405 410 415  
 Thr Gln Leu Phe Thr Asn Gln Thr Asp Ile Pro Asn Met Glu Asp Val  
 420 425 430  
 Tyr Ala Val Lys His Phe Ser Val Lys Gly Asp Val Tyr Ile Cys Leu  
 435 440 445  
 Thr Arg Phe Ile Gly Asp Ser Lys Val Met Lys Trp Gly Gly Ser Ser  
 450 455 460  
 Phe Gln Asp Ile Gln Arg Met Pro Ser Arg Gly Ser Met Val Phe Gln  
 465 470 475 480  
 Pro Leu Gln Ile Asn Asn Tyr Gln Tyr Ala Ile Leu Gly Ser Asp Tyr  
 485 490 495  
 Ser Phe Thr Gln Val Tyr Asn Trp Asp Ala Glu Lys Ala Lys Phe Val  
 500 505 510  
 Lys Phe Gln Glu Leu Asn Val Gln Ala Pro Arg Ser Phe Thr His Val  
 515 520 525  
 Ser Ile Asn Lys Arg Asn Phe Leu Phe Ala Ser Ser Phe Lys Gly Asn  
 530 535 540  
 Thr Gln Ile Tyr Lys His Val Ile Val Asp Leu Ser Ala  
 545 550 555

<210> 96  
 <211> 461  
 <212> PRT  
 <213> Homo sapiens

<400> 96  
 Leu Phe Thr Ser Asn Ser Phe Asp Val Ile Ser Asp Asp Ala Phe Ile  
 1 5 10 15  
 Gly Leu Pro His Leu Glu Tyr Leu Phe Ile Glu Asn Asn Asn Ile Lys  
 20 25 30  
 Ser Ile Ser Arg His Thr Phe Arg Gly Leu Lys Ser Leu Ile His Leu  
 35 40 45  
 Ser Leu Ala Asn Asn Asn Leu Gln Thr Leu Pro Lys Asp Ile Phe Lys  
 50 55 60  
 Gly Leu Asp Ser Leu Thr Asn Val Asp Leu Arg Gly Asn Ser Phe Asn  
 65 70 75 80  
 Cys Asp Cys Lys Leu Lys Trp Leu Val Glu Trp Leu Gly His Thr Asn

85										90					95				
Ala	Thr	Val	Glu	Asp	Ile	Tyr	Cys	Glu	Gly	Pro	Pro	Glu	Tyr	Lys	Lys				
			100					105				110							
Arg	Lys	Ile	Asn	Ser	Leu	Ser	Ser	Lys	Asp	Phe	Asp	Cys	Ile	Ile	Thr				
			115				120				125								
Glu	Phe	Ala	Lys	Ser	Gln	Asp	Leu	Pro	Tyr	Gln	Ser	Leu	Ser	Ile	Asp				
			130				135				140								
Thr	Phe	Ser	Tyr	Leu	Asn	Asp	Glu	Tyr	Val	Val	Ile	Ala	Gln	Pro	Phe				
145							150				155			160					
Thr	Gly	Lys	Cys	Ile	Phe	Leu	Glu	Trp	Asp	His	Val	Glu	Lys	Thr	Phe				
						165				170			175						
Arg	Asn	Tyr	Asp	Asn	Ile	Thr	Gly	Thr	Ser	Thr	Val	Val	Cys	Lys	Pro				
						180				185			190						
Ile	Val	Ile	Glu	Thr	Gln	Leu	Tyr	Val	Ile	Val	Ala	Gln	Leu	Phe	Gly				
						195							205						
Gly	Ser	His	Ile	Tyr	Lys	Arg	Asp	Ser	Phe	Ala	Asn	Lys	Phe	Ile	Lys				
						210				220									
Ile	Gln	Asp	Ile	Glu	Ile	Leu	Lys	Ile	Arg	Lys	Pro	Asn	Asp	Ile	Glu				
225							230				235			240					
Thr	Phe	Lys	Ile	Glu	Asn	Asn	Trp	Tyr	Phe	Val	Val	Ala	Asp	Ser	Ser				
						245				250			255						
Lys	Ala	Gly	Phe	Thr	Thr	Ile	Tyr	Lys	Trp	Asn	Gly	Asn	Gly	Phe	Tyr				
						260				265			270						
Ser	His	Gln	Ser	Leu	His	Ala	Trp	Tyr	Arg	Asp	Thr	Asp	Val	Glu	Tyr				
						275				280			285						
Leu	Glu	Ile	Val	Arg	Thr	Pro	Gln	Thr	Leu	Arg	Thr	Pro	His	Leu	Ile				
						290				300									
Leu	Ser	Ser	Ser	Ser	Gln	Arg	Pro	Val	Ile	Tyr	Gln	Trp	Asn	Lys	Ala				
305							310				315			320					
Thr	Gln	Leu	Phe	Thr	Asn	Gln	Thr	Asp	Ile	Pro	Asn	Met	Glu	Asp	Val				
						325				330			335						
Tyr	Ala	Val	Lys	His	Phe	Ser	Val	Lys	Gly	Asp	Val	Tyr	Ile	Cys	Leu				
						340				345			350						
Thr	Arg	Phe	Ile	Gly	Asp	Ser	Lys	Val	Met	Lys	Trp	Gly	Gly	Ser	Ser				
						355				360			365						
Phe	Gln	Asp	Ile	Gln	Arg	Met	Pro	Ser	Arg	Gly	Ser	Met	Val	Phe	Gln				
						370				380									
Pro	Leu	Gln	Ile	Asn	Asn	Tyr	Gln	Tyr	Ala	Ile	Leu	Gly	Ser	Asp	Tyr				



385		390		395		400
Ser Phe Thr Gln Val Tyr Asn Trp Asp Ala Glu Lys Ala Lys Phe Val						
	405			410		415
Lys Phe Gln Glu Leu Asn Val Gln Ala Pro Arg Ser Phe Thr His Val						
	420		425			430
Ser Ile Asn Lys Arg Asn Phe Leu Phe Ala Ser Ser Phe Lys Gly Asn						
	435		440			445
Thr Gln Ile Tyr Lys His Val Ile Val Asp Leu Ser Ala						
	450		455			460

<210> 97  
 <211> 542  
 <212> PRT  
 <213> Homo sapiens

<400> 97

Arg Arg Gly Gly Cys Gly Ala Leu Gly Leu Leu Leu Leu Leu Gly																			
1				5					10										15
Ala Ala Cys Leu Ile Pro Arg Ser Ala Gln Val Arg Arg Leu Ala Arg																			
			20						25										30
Cys Pro Ala Thr Cys Ser Cys Thr Lys Glu Ser Ile Ile Cys Val Gly																			
			35					40										45	
Ser Ser Trp Val Pro Arg Ile Val Pro Gly Asp Ile Ser Ser Leu Ser																			
			50					55						60					
Leu Val Asn Gly Thr Phe Ser Glu Ile Lys Asp Arg Met Phe Ser His																			
			65				70				75								80
Leu Pro Ser Leu Gln Leu Leu Leu Leu Asn Ser Asn Ser Phe Thr Ile																			
				85						90									95
Ile Arg Asp Asp Ala Phe Ala Gly Leu Phe His Leu Glu Tyr Leu Phe																			
			100						105									110	
Ile Glu Gly Asn Lys Ile Glu Thr Ile Ser Arg Asn Ala Phe Arg Gly																			
			115					120						125					
Leu Arg Asp Leu Thr His Leu Ser Leu Ala Asn Asn His Ile Lys Ala																			
			130				135						140						
Leu Pro Arg Asp Val Phe Ser Asp Leu Asp Ser Leu Ile Glu Leu Asp																			
			145			150				155									160
Leu Arg Gly Asn Lys Phe Glu Cys Asp Cys Lys Ala Lys Trp Leu Tyr																			
				165					170										175
Leu Trp Leu Lys Met Thr Asn Ser Thr Val Ser Asp Val Leu Cys Ile																			
				180				185											190

Gly	Pro	Pro	Glu	Tyr	Gln	Glu	Lys	Lys	Leu	Asn	Asp	Val	Thr	Ser	Phe		
		195					200					205					
Asp	Tyr	Glu	Cys	Thr	Thr	Thr	Asp	Phe	Val	Val	His	Gln	Thr	Leu	Pro		
	210					215					220						
Tyr	Gln	Ser	Val	Ser	Val	Asp	Thr	Phe	Asn	Ser	Lys	Asn	Asp	Val	Tyr		
225					230					235					240		
Val	Ala	Ile	Ala	Gln	Pro	Ser	Met	Glu	Asn	Cys	Met	Val	Leu	Glu	Trp		
				245					250					255			
Asp	His	Ile	Glu	Met	Asn	Phe	Arg	Ser	Tyr	Asp	Asn	Ile	Thr	Gly	Gln		
			260					265					270				
Ser	Ile	Val	Gly	Cys	Lys	Ala	Ile	Leu	Ile	Asp	Asp	Gln	Val	Phe	Val		
		275					280					285					
Val	Val	Ala	Gln	Leu	Phe	Gly	Gly	Ser	His	Ile	Tyr	Lys	Tyr	Asp	Glu		
	290					295					300						
Ser	Trp	Thr	Lys	Phe	Val	Lys	Phe	Gln	Asp	Ile	Glu	Val	Ser	Arg	Ile		
305					310					315					320		
Ser	Lys	Pro	Asn	Asp	Ile	Glu	Leu	Phe	Gln	Ile	Asp	Asp	Glu	Thr	Phe		
				325					330					335			
Phe	Val	Ile	Ala	Asp	Ser	Ser	Lys	Ala	Gly	Leu	Ser	Thr	Val	Tyr	Lys		
			340					345					350				
Trp	Asn	Ser	Lys	Gly	Phe	Tyr	Ser	Tyr	Gln	Ser	Leu	His	Glu	Trp	Phe		
		355					360					365					
Arg	Asp	Thr	Asp	Ala	Glu	Phe	Val	Asp	Ile	Asp	Gly	Lys	Ser	His	Leu		
	370					375					380						
Ile	Leu	Ser	Ser	Arg	Ser	Gln	Val	Pro	Ile	Ile	Leu	Gln	Trp	Asn	Lys		
385					390					395					400		
Ser	Ser	Lys	Lys	Phe	Val	Pro	His	Gly	Asp	Ile	Pro	Asn	Met	Glu	Asp		
				405					410					415			
Val	Leu	Ala	Val	Lys	Ser	Phe	Arg	Met	Gln	Asn	Thr	Leu	Tyr	Leu	Ser		
			420					425					430				
Leu	Thr	Arg	Phe	Ile	Gly	Asp	Ser	Arg	Val	Met	Arg	Trp	Asn	Ser	Lys		
		435					440					445					
Gln	Phe	Val	Glu	Ile	Gln	Ala	Leu	Pro	Ser	Arg	Gly	Ala	Met	Thr	Leu		
	450					455					460						
Gln	Pro	Phe	Ser	Phe	Lys	Asp	Asn	His	Tyr	Leu	Ala	Leu	Gly	Ser	Asp		
465					470					475					480		
Tyr	Thr	Phe	Ser	Gln	Ile	Tyr	Gln	Trp	Asp	Lys	Glu	Lys	Gln	Leu	Phe		
				485					490					495			

Lys Lys Phe Lys Glu Ile Tyr Val Gln Ala Pro Arg Ser Phe Thr Ala  
500 505 510

Val Ser Thr Asp Arg Arg Asp Phe Leu Phe Ala Ser Ser Phe Lys Gly  
515 520 525

Lys Thr Lys Ile Phe Glu His Ile Ile Val Asp Leu Ser Leu  
530 535 540

<210> 98

<211> 1504

<212> PRT

<213> *Drosophila melanogaster*

<400> 98

Met Ala Ala Pro Ser Arg Thr Thr Leu Met Pro Pro Pro Phe Arg Leu  
1 5 10 15

Gln Leu Arg Leu Leu Ile Leu Pro Ile Leu Leu Leu Leu Arg His Asp  
20 25 30

Ala Val His Ala Glu Pro Tyr Ser Gly Gly Phe Gly Ser Ser Ala Val  
35 40 45

Ser Ser Gly Gly Leu Gly Ser Val Gly Ile His Ile Pro Gly Gly Gly  
50 55 60

Val Gly Val Ile Thr Glu Ala Arg Cys Pro Arg Val Cys Ser Cys Thr  
65 70 75 80

Gly Leu Asn Val Asp Cys Ser His Arg Gly Leu Thr Ser Val Pro Arg  
85 90 95

Lys Ile Ser Ala Asp Val Glu Arg Leu Glu Leu Gln Gly Asn Asn Leu  
100 105 110

Thr Val Ile Tyr Glu Thr Asp Phe Gln Arg Leu Thr Lys Leu Arg Met  
115 120 125

Leu Gln Leu Thr Asp Asn Gln Ile His Thr Ile Glu Arg Asn Ser Phe  
130 135 140

Gln Asp Leu Val Ser Leu Glu Arg Leu Arg Leu Asn Asn Asn Arg Leu  
145 150 155 160

Lys Ala Ile Pro Glu Asn Phe Val Thr Ser Ser Ala Ser Leu Leu Arg  
165 170 175

Leu Asp Ile Ser Asn Asn Val Ile Thr Thr Val Gly Arg Arg Val Phe  
180 185 190

Lys Gly Ala Gln Ser Leu Arg Ser Leu Gln Leu Asp Asn Asn Gln Ile  
195 200 205

Thr Cys Leu Asp Glu His Ala Phe Lys Gly Leu Val Glu Leu Glu Ile  
210 215 220

Leu Thr Leu Asn Asn Asn Asn Leu Thr Ser Leu Pro His Asn Ile Phe  
 225 230 235 240  
 Gly Gly Leu Gly Arg Leu Arg Ala Leu Arg Leu Ser Asp Asn Pro Phe  
 245 250 255  
 Ala Cys Asp Cys His Leu Ser Trp Leu Ser Arg Phe Leu Arg Ser Ala  
 260 265 270  
 Thr Arg Leu Ala Pro Tyr Thr Arg Cys Gln Ser Pro Ser Gln Leu Lys  
 275 280 285  
 Gly Gln Asn Val Ala Asp Leu His Asp Gln Glu Phe Lys Cys Ser Gly  
 290 295 300  
 Leu Thr Glu His Ala Pro Met Glu Cys Gly Ala Glu Asn Ser Cys Pro  
 305 310 315 320  
 His Pro Cys Arg Cys Ala Asp Gly Ile Val Asp Cys Arg Glu Lys Ser  
 325 330 335  
 Leu Thr Ser Val Pro Val Thr Leu Pro Asp Asp Thr Thr Asp Val Arg  
 340 345 350  
 Leu Glu Gln Asn Phe Ile Thr Glu Leu Pro Pro Lys Ser Phe Ser Ser  
 355 360 365  
 Phe Arg Arg Leu Arg Arg Ile Asp Leu Ser Asn Asn Asn Ile Ser Arg  
 370 375 380  
 Ile Ala His Asp Ala Leu Ser Gly Leu Lys Gln Leu Thr Thr Leu Val  
 385 390 395 400  
 Leu Tyr Gly Asn Lys Ile Lys Asp Leu Pro Ser Gly Val Phe Lys Gly  
 405 410 415  
 Leu Gly Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Glu Ile Ser Cys  
 420 425 430  
 Ile Arg Lys Asp Ala Phe Arg Asp Leu His Ser Leu Ser Leu Leu Ser  
 435 440 445  
 Leu Tyr Asp Asn Asn Ile Gln Ser Leu Ala Asn Gly Thr Phe Asp Ala  
 450 455 460  
 Met Lys Ser Ile Lys Thr Val His Leu Ala Lys Asn Pro Phe Ile Cys  
 465 470 475 480  
 Asp Cys Asn Leu Arg Trp Leu Ala Asp Tyr Leu His Lys Asn Pro Ile  
 485 490 495  
 Glu Thr Ser Gly Ala Arg Cys Glu Ser Pro Lys Arg Met His Arg Arg  
 500 505 510  
 Arg Ile Glu Ser Leu Arg Glu Glu Lys Phe Lys Cys Ser Trp Asp Glu  
 515 520 525

Leu Arg Met Lys Leu Ser Gly Glu Cys Arg Met Asp Ser Asp Cys Pro  
 530 535 540  
 Ala Met Cys His Cys Glu Gly Thr Thr Val Asp Cys Thr Gly Arg Gly  
 545 550 555 560  
 Leu Lys Glu Ile Pro Arg Asp Ile Pro Leu His Thr Thr Glu Leu Leu  
 565 570 575  
 Leu Asn Asp Asn Glu Leu Gly Arg Ile Ser Ser Asp Gly Leu Phe Gly  
 580 585 590  
 Arg Leu Pro His Leu Val Lys Leu Glu Leu Lys Arg Asn Gln Leu Thr  
 595 600 605  
 Gly Ile Glu Pro Asn Ala Phe Glu Gly Ala Ser His Ile Gln Glu Leu  
 610 615 620  
 Gln Leu Gly Glu Asn Lys Ile Lys Glu Ile Ser Asn Lys Met Phe Leu  
 625 630 635 640  
 Gly Leu His Gln Leu Lys Thr Leu Asn Leu Tyr Asp Asn Gln Ile Ser  
 645 650 655  
 Cys Val Met Pro Gly Ser Phe Glu His Leu Asn Ser Leu Thr Ser Leu  
 660 665 670  
 Asn Leu Ala Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala Trp Phe  
 675 680 685  
 Ala Glu Trp Leu Arg Lys Lys Ser Leu Asn Gly Gly Ala Ala Arg Cys  
 690 695 700  
 Gly Ala Pro Ser Lys Val Arg Asp Val Gln Ile Lys Asp Leu Pro His  
 705 710 715 720  
 Ser Glu Phe Lys Cys Ser Ser Glu Asn Ser Glu Gly Cys Leu Gly Asp  
 725 730 735  
 Gly Tyr Cys Pro Pro Ser Cys Thr Cys Thr Gly Thr Val Val Arg Cys  
 740 745 750  
 Ser Arg Asn Gln Leu Lys Glu Ile Pro Arg Gly Ile Pro Ala Glu Thr  
 755 760 765  
 Ser Glu Leu Tyr Leu Glu Ser Asn Glu Ile Glu Gln Ile His Tyr Glu  
 770 775 780  
 Arg Ile Arg His Leu Arg Ser Leu Thr Arg Leu Asp Leu Ser Asn Asn  
 785 790 795 800  
 Gln Ile Thr Ile Leu Ser Asn Tyr Thr Phe Ala Asn Leu Thr Lys Leu  
 805 810 815  
 Ser Thr Leu Ile Ile Ser Tyr Asn Lys Leu Gln Cys Leu Gln Arg His  
 820 825 830

Ala Leu Ser Gly Leu Asn Asn Leu Arg Val Leu Ser Leu His Gly Asn  
 835 840 845  
 Arg Ile Ser Met Leu Pro Glu Gly Ser Phe Glu Asp Leu Lys Ser Leu  
 850 855 860  
 Thr His Ile Ala Leu Gly Ser Asn Pro Leu Tyr Cys Asp Cys Gly Leu  
 865 870 875 880  
 Lys Trp Phe Ser Asp Trp Ile Lys Leu Asp Tyr Val Glu Pro Gly Ile  
 885 890 895  
 Ala Arg Cys Ala Glu Pro Glu Gln Met Lys Asp Lys Leu Ile Leu Ser  
 900 905 910  
 Thr Pro Ser Ser Ser Phe Val Cys Arg Gly Arg Val Arg Asn Asp Ile  
 915 920 925  
 Leu Ala Lys Cys Asn Ala Cys Phe Glu Gln Pro Cys Gln Asn Gln Ala  
 930 935 940  
 Gln Cys Val Ala Leu Pro Gln Arg Glu Tyr Gln Cys Leu Cys Gln Pro  
 945 950 955 960  
 Gly Tyr His Gly Lys His Cys Glu Phe Met Ile Asp Ala Cys Tyr Gly  
 965 970 975  
 Asn Pro Cys Arg Asn Asn Ala Thr Cys Thr Val Leu Glu Glu Gly Arg  
 980 985 990  
 Phe Ser Cys Gln Cys Ala Pro Gly Tyr Thr Gly Ala Arg Cys Glu Thr  
 995 1000 1005  
 Asn Ile Asp Asp Cys Leu Gly Glu Ile Lys Cys Gln Asn Asn Ala Thr  
 1010 1015 1020  
 Cys Ile Asp Gly Val Glu Ser Tyr Lys Cys Glu Cys Gln Pro Gly Phe  
 1025 1030 1035 1040  
 Ser Gly Glu Phe Cys Asp Thr Lys Ile Gln Phe Cys Ser Pro Glu Phe  
 1045 1050 1055  
 Asn Pro Cys Ala Asn Gly Ala Lys Cys Met Asp His Phe Thr His Tyr  
 1060 1065 1070  
 Ser Cys Asp Cys Gln Ala Gly Phe His Gly Thr Asn Cys Thr Asp Asn  
 1075 1080 1085  
 Ile Asp Asp Cys Gln Asn His Met Cys Gln Asn Gly Gly Thr Cys Val  
 1090 1095 1100  
 Asp Gly Ile Asn Asp Tyr Gln Cys Arg Cys Pro Asp Asp Tyr Thr Gly  
 1105 1110 1115 1120  
 Lys Tyr Cys Glu Gly His Asn Met Ile Ser Met Met Tyr Pro Gln Thr  
 1125 1130 1135

Ser Pro Cys Gln Asn His Glu Cys Lys His Gly Val Cys Phe Gln Pro  
 1140 1145 1150  
 Asn Ala Gln Gly Ser Asp Tyr Leu Cys Arg Cys His Pro Gly Tyr Thr  
 1155 1160 1165  
 Gly Lys Trp Cys Glu Tyr Leu Thr Ser Ile Ser Phe Val His Asn Asn  
 1170 1175 1180  
 Ser Phe Val Glu Leu Glu Pro Leu Arg Thr Arg Pro Glu Ala Asn Val  
 1185 1190 1195 1200  
 Thr Ile Val Phe Ser Ser Ala Glu Gln Asn Gly Ile Leu Met Tyr Asp  
 1205 1210 1215  
 Gly Gln Asp Ala His Leu Ala Val Glu Leu Phe Asn Gly Arg Ile Arg  
 1220 1225 1230  
 Val Ser Tyr Asp Val Gly Asn His Pro Val Ser Thr Met Tyr Ser Phe  
 1235 1240 1245  
 Glu Met Val Ala Asp Gly Lys Tyr His Ala Val Glu Leu Leu Ala Ile  
 1250 1255 1260  
 Lys Lys Asn Phe Thr Leu Arg Val Asp Arg Gly Leu Ala Arg Ser Ile  
 1265 1270 1275 1280  
 Ile Asn Glu Gly Ser Asn Asp Tyr Leu Lys Leu Thr Thr Pro Met Phe  
 1285 1290 1295  
 Leu Gly Gly Leu Pro Val Asp Pro Ala Gln Gln Ala Tyr Lys Asn Trp  
 1300 1305 1310  
 Gln Ile Arg Asn Leu Thr Ser Phe Lys Gly Cys Met Lys Glu Val Trp  
 1315 1320 1325  
 Ile Asn His Lys Leu Val Asp Phe Gly Asn Ala Gln Arg Gln Gln Lys  
 1330 1335 1340  
 Ile Thr Pro Gly Cys Ala Leu Leu Glu Gly Glu Gln Gln Glu Glu Glu  
 1345 1350 1355 1360  
 Asp Asp Glu Gln Asp Phe Met Asp Glu Thr Pro His Ile Lys Glu Glu  
 1365 1370 1375  
 Pro Val Asp Pro Cys Leu Glu Asn Lys Cys Arg Arg Gly Ser Arg Cys  
 1380 1385 1390  
 Val Pro Asn Ser Asn Ala Arg Asp Gly Tyr Gln Cys Lys Cys Lys His  
 1395 1400 1405  
 Gly Gln Arg Gly Arg Tyr Cys Asp Gln Gly Glu Gly Ser Thr Glu Pro  
 1410 1415 1420  
 Pro Thr Val Thr Ala Ala Ser Thr Cys Arg Lys Glu Gln Val Arg Glu  
 1425 1430 1435 1440

Tyr Tyr Thr Glu Asn Asp Cys Arg Ser Arg Gln Pro Leu Lys Tyr Ala  
                   1445                  1450                  1455  
 Lys Cys Val Gly Gly Cys Gly Asn Gln Cys Cys Ala Ala Lys Ile Val  
                   1460                  1465                  1470  
 Arg Arg Arg Lys Val Arg Met Val Cys Ser Asn Asn Arg Lys Tyr Ile  
                   1475                  1480                  1485  
 Lys Asn Leu Asp Ile Val Arg Lys Cys Gly Cys Thr Lys Lys Cys Tyr  
                   1490                  1495                  1500

<210> 99  
 <211> 51  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Leucine Rich  
           Repeat C-terminal Domain Consensus Sequence

<400> 99  
 Asn Pro Phe Ile Cys Asp Cys Glu Leu Arg Trp Leu Leu Arg Trp Leu  
   1                  5                  10                  15  
 Gln Ala Asn Arg His Leu Gln Asp Pro Val Asp Leu Arg Cys Ala Ser  
                   20                  25                  30  
 Pro Glu Ser Leu Arg Gly Pro Leu Leu Leu Leu Leu Pro Ser Ser Phe  
                   35                  40                  45  
 Lys Cys Pro  
           50

<210> 100  
 <211> 51  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Leucine Rich  
           Repeat C-terminal domain Consensus Sequence

<400> 100  
 Asn Pro Phe Ile Cys Asp Cys Glu Leu Arg Trp Leu Leu Arg Trp Leu  
   1                  5                  10                  15  
 Arg Glu Pro Arg Arg Leu Glu Asp Pro Glu Asp Leu Arg Cys Ala Ser  
                   20                  25                  30  
 Pro Glu Ser Leu Arg Gly Pro Leu Leu Glu Leu Leu Pro Ser Asp Phe



35                                      40                                      45  
 Ser Cys Pro  
 50  
  
 <210> 101  
 <211> 24  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       Leucine-richrepeats Consensus Sequence  
  
 <400> 101  
 Leu Pro Asn Leu Arg Glu Leu Asp Leu Ser Asn Asn Gln Leu Ser Ser  
   1                                      5                                      10                                      15  
  
 Leu Pro Pro Gly Ala Phe Gln Gly  
                                     20  
  
  
 <210> 102  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 102  
 Met Glu Thr Phe Pro Leu Leu Leu Leu Ser Leu Gly Leu Val Leu Ala  
   1                                      5                                      10                                      15  
  
 Glu Ala Ser Glu Ser Thr Met Lys Ile Ile Lys Glu Glu Phe Thr Asp  
                                     20                                      25                                      30  
  
 Glu Glu Met Gln Tyr Asp Met Ala Lys Ser Gly Gln Glu Lys Gln Thr  
                                     35                                      40                                      45  
  
 Ile Glu Ile Leu Met Asn Pro Ile Leu Leu Val Lys Asn Thr Ser Leu  
   50                                      55                                      60  
  
 Ser Met Ser Lys Asp Asp Met Ser Ser Thr Leu Leu Thr Phe Arg Ser  
   65                                      70                                      75                                      80  
  
 Leu His Tyr Asn Asp Pro Lys Gly Asn Ser Ser Gly Asn Asp Lys Glu  
                                     85                                      90                                      95  
  
 Cys Cys Asn Asp Met Thr Val Trp Arg Lys Val Ser Glu Ala Asn Gly  
                                     100                                      105                                      110  
  
 Ser Cys Lys Trp Ser Asn Asn Phe Ile Arg Ser Ser Thr Glu Val Met  
   115                                      120                                      125  
  
 Arg Arg Val His Arg Ala Pro Ser Cys Lys Phe Val Gln Asn Pro Gly  
   130                                      135                                      140  
  
 Ile Ser Cys Cys Glu Ser Leu Glu Leu Glu Asn Thr Val Cys Gln Phe

145                      150                      155                      160  
 Thr Thr Gly Lys Gln Phe Pro Arg Cys Gln Tyr His Ser Val Thr Ser  
                                  165                      170                      175  
 Leu Glu Lys Ile Leu Thr Val Leu Thr Gly His Ser Leu Met Ser Trp  
                                  180                      185                      190  
 Leu Val Cys Gly Ser Lys Leu  
                                  195

<210> 103  
 <211> 124  
 <212> PRT  
 <213> *Balaenoptera acutorostrata*

<400> 103  
 Arg Glu Ser Pro Ala Met Lys Phe Gln Arg Gln His Met Asp Ser Gly  
   1                                 5                                 10                                 15  
 Asn Ser Pro Gly Asn Asn Pro Asn Tyr Cys Asn Gln Met Met Met Arg  
                                  20                                 25                                 30  
 Arg Lys Met Thr Gln Gly Arg Cys Lys Pro Val Asn Thr Phe Val His  
                                  35                                 40                                 45  
 Glu Ser Leu Glu Asp Val Lys Ala Val Cys Ser Gln Lys Asn Val Leu  
   50                                 55                                 60  
 Cys Lys Asn Gly Arg Thr Asn Cys Tyr Glu Ser Asn Ser Thr Met His  
   65                                 70                                 75                                 80  
 Ile Thr Asp Cys Arg Gln Thr Gly Ser Ser Lys Tyr Pro Asn Cys Ala  
                                  85                                 90                                 95  
 Tyr Lys Thr Ser Gln Lys Glu Lys His Ile Ile Val Ala Cys Glu Gly  
                                  100                                 105                                 110  
 Asn Pro Tyr Val Pro Val His Phe Asp Asn Ser Val  
                                  115                                 120

<210> 104  
 <211> 503  
 <212> PRT  
 <213> *Cricetulus griseus*

<400> 104  
 Met Leu His Val Leu Trp Thr Phe Trp Ile Leu Val Ala Met Thr Asp  
   1                                 5                                 10                                 15  
 Leu Ser Arg Lys Gly Cys Ser Ala Gln Ala Ser Leu Ser Cys Asp Ala  
                                  20                                 25                                 30  
 Ala Gly Val Cys Asp Gly Arg Ser Arg Ser Phe Thr Ser Ile Pro Ser  
                                  35                                 40                                 45

Gly Leu Thr Ala Ala Met Lys Ser Leu Asp Leu Ser Asn Asn Lys Ile  
 50 55 60  
 Thr Ser Ile Gly His Gly Asp Leu Arg Gly Cys Val Asn Leu Arg Ala  
 65 70 75 80  
 Leu Ile Leu Gln Ser Ser Gly Ile Asn Thr Ile Glu Glu Asp Ala Phe  
 85 90 95  
 Ser Ser Leu Ser Lys Leu Glu Tyr Leu Asp Leu Ser Asp Asn His Leu  
 100 105 110  
 Ser Asn Leu Ser Ser Ser Trp Phe Arg Pro Leu Ser Ser Leu Lys Tyr  
 115 120 125  
 Leu Asn Leu Leu Gly Asn Pro Tyr Arg Ile Leu Gly Glu Thr Pro Leu  
 130 135 140  
 Phe Leu Asn Leu Thr His Leu Gln Thr Leu Arg Val Gly Asn Val Ala  
 145 150 155 160  
 Thr Phe Ser Gly Ile Arg Arg Thr Asp Phe Ala Gly Leu Thr Ser Leu  
 165 170 175  
 Asp Glu Leu Glu Ile Lys Ala Leu Ser Leu Gln Asn Tyr Glu Pro Gly  
 180 185 190  
 Ser Leu Gln Ser Ile Gln Ser Ile His His Leu Thr Phe His Leu Ser  
 195 200 205  
 Gln Ser Asp Phe Leu Leu Gly Val Phe Glu Asp Thr Leu Ser Ser Val  
 210 215 220  
 Gly Tyr Leu Glu Leu Arg Asp Ala Asn Leu Asp Ser Phe Tyr Phe Ser  
 225 230 235 240  
 Glu Leu Ser Thr Asp Glu Met Asn Ser Pro Met Lys Lys Leu Ala Phe  
 245 250 255  
 Gln Asn Ala Asp Leu Thr Asp Glu Ser Phe Asn Glu Leu Leu Lys Leu  
 260 265 270  
 Leu Arg Tyr Thr Pro Glu Leu Leu Glu Val Glu Phe Asp Asp Cys Thr  
 275 280 285  
 Leu Asn Gly Val Gly Asp Phe Gln Pro Ser Glu Ser Asp Val Val Arg  
 290 295 300  
 Glu Leu Gly Lys Val Glu Thr Leu Ile Ile Arg Arg Leu His Ile Pro  
 305 310 315 320  
 Arg Phe Tyr Ser Phe Tyr Asp Leu Ser Thr Val Tyr Thr Leu Leu Glu  
 325 330 335  
 Lys Val Lys Arg Ile Thr Val Glu Asn Ser Lys Val Phe Leu Val Pro  
 340 345 350

Cys Leu Phe Ser Gln His Leu Lys Ser Leu Glu Phe Leu Asp Leu Ser  
 355 360 365  
 Glu Asn Leu Met Val Glu Glu Tyr Leu Lys Asn Ala Ala Cys Glu Gly  
 370 375 380  
 Ser Trp Pro Ser Leu Gln Thr Leu Ile Leu Arg Gln Asn Arg Leu Lys  
 385 390 395 400  
 Ser Ile Glu Arg Thr Gly Lys Ile Leu Leu Thr Leu Lys Asn Leu Thr  
 405 410 415  
 Ala Leu Asp Ile Ser Arg Asn Ser Phe Gln Ser Met Pro Asp Ser Cys  
 420 425 430  
 Gln Trp Pro Gly Lys Met Arg Phe Leu Asn Leu Ser Ser Thr Gly Ile  
 435 440 445  
 Gln Ala Val Lys Met Cys Ile Pro Gln Thr Leu Glu Val Leu Asp Val  
 450 455 460  
 Ser Asn Asn Asn Leu Ile Ser Phe Ser Leu Phe Leu Pro Leu Leu Arg  
 465 470 475 480  
 Glu Leu Tyr Ile Ser Arg Asn Lys Leu His Thr Leu Pro Met Pro Pro  
 485 490 495  
 Cys Ser Leu Cys Tyr Trp Ser  
 500

<210> 105  
 <211> 567  
 <212> PRT  
 <213> Mus musculus

<400> 105  
 Met Leu Arg Ser Ala Leu Leu Ser Ala Val Leu Ala Leu Leu Arg Ala  
 1 5 10 15  
 Gln Pro Phe Pro Cys Pro Lys Thr Cys Lys Cys Val Val Arg Asp Ala  
 20 25 30  
 Ala Gln Cys Ser Gly Gly Ser Val Ala His Ile Ala Glu Leu Gly Leu  
 35 40 45  
 Pro Thr Asn Leu Thr His Ile Leu Leu Phe Arg Met Asp Gln Gly Ile  
 50 55 60  
 Leu Arg Asn His Ser Phe Ser Gly Met Thr Val Leu Gln Arg Leu Met  
 65 70 75 80  
 Leu Ser Asp Ser His Ile Ser Ala Ile Asp Pro Gly Thr Phe Asn Asp  
 85 90 95  
 Leu Val Lys Leu Lys Thr Leu Arg Leu Thr Arg Asn Lys Ile Ser Arg

100	105	110
Leu Pro Arg Ala Ile Leu Asp Lys Met Val Leu Leu Glu Gln Leu Phe 115 120 125		
Leu Asp His Asn Ala Leu Arg Asp Leu Asp Gln Asn Leu Phe Gln Gln 130 135 140		
Leu Arg Asn Leu Gln Glu Leu Gly Leu Asn Gln Asn Gln Leu Ser Phe 145 150 155 160		
Leu Pro Ala Asn Leu Phe Ser Ser Leu Arg Glu Leu Lys Leu Leu Asp 165 170 175		
Leu Ser Arg Asn Asn Leu Thr His Leu Pro Lys Gly Leu Leu Gly Ala 180 185 190		
Gln Val Lys Leu Glu Lys Leu Leu Leu Tyr Ser Asn Gln Leu Thr Ser 195 200 205		
Val Asp Ser Gly Leu Leu Ser Asn Leu Gly Ala Leu Thr Glu Leu Arg 210 215 220		
Leu Glu Arg Asn His Leu Arg Ser Val Ala Pro Gly Ala Phe Asp Arg 225 230 235 240		
Leu Gly Asn Leu Ser Ser Leu Thr Leu Ser Gly Asn Leu Leu Glu Ser 245 250 255		
Leu Pro Pro Ala Leu Phe Leu His Val Ser Ser Val Ser Arg Leu Thr 260 265 270		
Leu Phe Glu Asn Pro Leu Glu Glu Leu Pro Asp Val Leu Phe Gly Glu 275 280 285		
Met Ala Gly Leu Arg Glu Leu Trp Leu Asn Gly Thr His Leu Ser Thr 290 295 300		
Leu Pro Ala Ala Ala Phe Arg Asn Leu Ser Gly Leu Gln Thr Leu Gly 305 310 315 320		
Leu Thr Arg Asn Pro Arg Leu Ser Ala Leu Pro Arg Gly Val Phe Gln 325 330 335		
Gly Leu Arg Glu Leu Arg Val Leu Ala Leu His Thr Asn Ala Leu Ala 340 345 350		
Glu Leu Arg Asp Asp Ala Leu Arg Gly Leu Gly His Leu Arg Gln Val 355 360 365		
Ser Leu Arg His Asn Arg Leu Arg Ala Leu Pro Arg Thr Leu Phe Arg 370 375 380		
Asn Leu Ser Ser Leu Glu Ser Val Gln Leu Glu His Asn Gln Leu Glu 385 390 395 400		
Thr Leu Pro Gly Asp Val Phe Ala Ala Leu Pro Gln Leu Thr Gln Val		

405	410	415
Leu Leu Gly His Asn Pro Trp Leu Cys Asp Cys Gly Leu Trp Pro Phe		
420	425	430
Leu Gln Trp Leu Arg His His Pro Asp Ile Leu Gly Arg Asp Glu Pro		
435	440	445
Pro Gln Cys Arg Gly Pro Glu Pro Arg Ala Ser Leu Ser Phe Trp Glu		
450	455	460
Leu Leu Gln Gly Asp Pro Trp Cys Pro Asp Pro Arg Ser Leu Pro Leu		
465	470	475
Asp Pro Pro Thr Glu Asn Ala Leu Glu Ala Pro Val Pro Ser Trp Leu		
485	490	495
Pro Asn Ser Trp Gln Ser Gln Thr Trp Ala Gln Leu Val Ala Arg Gly		
500	505	510
Glu Ser Pro Asn Asn Arg Leu Tyr Trp Gly Leu Tyr Ile Leu Leu Leu		
515	520	525
Val Ala Gln Ala Ile Ile Ala Ala Phe Ile Val Phe Ala Met Ile Lys		
530	535	540
Ile Gly Gln Leu Phe Arg Thr Leu Ile Arg Glu Lys Leu Leu Leu Glu		
545	550	555
560		
Ala Met Gly Lys Ser Cys Asn		
565		

<210> 106  
 <211> 567  
 <212> PRT  
 <213> Mus musculus

<400> 106  
 Met Leu Arg Ser Ala Leu Leu Ser Ala Val Leu Pro Leu Leu Arg Ala  
 1 5 10 15  
 Gln Pro Phe Pro Cys Pro Lys Thr Cys Lys Cys Val Val Arg Asp Ala  
 20 25 30  
 Ala Gln Cys Ser Gly Gly Ser Val Ala His Ile Ala Glu Leu Gly Leu  
 35 40 45  
 Pro Thr Asn Leu Thr His Ile Leu Leu Phe Arg Met Asp Gln Gly Ile  
 50 55 60  
 Leu Arg Asn His Ser Phe Ser Gly Met Thr Val Leu Gln Arg Gln Met  
 65 70 75 80  
 Leu Ser Asp Ser His Ile Ser Ala Ile Asp Pro Gly Thr Phe Asn Asp  
 85 90 95

Leu Val Lys Leu Lys Thr Leu Arg Leu Thr Arg Asn Lys Ile Ser Arg  
 100 105 110

Leu Pro Arg Ala Ile Leu Asp Lys Met Val Leu Leu Glu Gln Leu Phe  
 115 120 125

Leu Asp His Asn Ala Leu Arg Asp Leu Asp Gln Asn Leu Phe Gln Gln  
 130 135 140

Leu Arg Asn Leu Gln Glu Leu Gly Leu Asn Gln Asn Gln Leu Ser Phe  
 145 150 155 160

Leu Pro Ala Asn Leu Phe Ser Ser Leu Arg Glu Leu Lys Leu Leu Asp  
 165 170 175

Leu Ser Arg Asn Asn Leu Thr His Leu Pro Lys Gly Leu Leu Gly Ala  
 180 185 190

Gln Val Lys Leu Glu Lys Leu Leu Leu Tyr Ser Asn Gln Leu Thr Ser  
 195 200 205

Val Asp Ser Gly Leu Leu Ser Asn Leu Gly Ala Leu Thr Glu Leu Arg  
 210 215 220

Leu Glu Arg Asn His Leu Arg Ser Val Ala Pro Gly Ala Phe Asp Arg  
 225 230 235 240

Leu Gly Asn Leu Ser Ser Leu Thr Leu Ser Gly Asn Leu Leu Glu Ser  
 245 250 255

Leu Pro Pro Ala Leu Phe Leu His Val Ser Ser Val Ser Arg Leu Thr  
 260 265 270

Leu Phe Glu Asn Pro Leu Glu Glu Leu Pro Asp Val Leu Phe Gly Glu  
 275 280 285

Met Ala Gly Leu Arg Glu Leu Trp Leu Asn Gly Thr His Leu Ser Thr  
 290 295 300

Leu Pro Ala Ala Ala Phe Arg Asn Leu Ser Gly Leu Gln Thr Leu Gly  
 305 310 315 320

Leu Thr Arg Asn Pro Arg Leu Ser Ala Leu Pro Arg Gly Val Phe Gln  
 325 330 335

Gly Leu Arg Glu Leu Arg Val Leu Gly Leu His Thr Asn Ala Leu Ala  
 340 345 350

Glu Leu Arg Asp Asp Ala Leu Arg Gly Leu Gly His Leu Arg Gln Val  
 355 360 365

Ser Leu Arg His Asn Arg Leu Arg Ala Leu Pro Arg Thr Leu Phe Arg  
 370 375 380

Asn Leu Ser Ser Leu Glu Ser Val Gln Leu Glu His Asn Gln Leu Glu  
 385 390 395 400

Thr Leu Pro Gly Asp Val Phe Ala Ala Leu Pro Gln Leu Thr Gln Val  
 405 410 415  
 Leu Leu Gly His Asn Pro Trp Leu Cys Asp Cys Gly Leu Trp Arg Phe  
 420 425 430  
 Leu Gln Trp Leu Arg His His Pro Asp Ile Leu Gly Arg Asp Glu Pro  
 435 440 445  
 Pro Gln Cys Arg Gly Pro Glu Pro Arg Ala Ser Leu Ser Phe Trp Glu  
 450 455 460  
 Leu Leu Gln Gly Asp Pro Trp Cys Pro Asp Pro Arg Ser Leu Pro Leu  
 465 470 475 480  
 Asp Pro Pro Thr Glu Asn Ala Leu Glu Ala Pro Val Pro Ser Trp Leu  
 485 490 495  
 Pro Asn Ser Trp Gln Ser Gln Thr Trp Ala Gln Leu Val Ala Arg Gly  
 500 505 510  
 Glu Ser Pro Asn Asn Arg Leu Tyr Trp Gly Leu Tyr Ile Leu Leu Leu  
 515 520 525  
 Val Ala Gln Ala Ile Ile Ala Ala Phe Ile Val Phe Ala Met Ile Lys  
 530 535 540  
 Ile Gly Gln Leu Phe Arg Thr Leu Ile Arg Glu Lys Leu Leu Leu Glu  
 545 550 555 560  
 Ala Met Gly Lys Ser Cys Asn  
 565

<210> 107  
 <211> 661  
 <212> PRT  
 <213> Mus musculus

<400> 107  
 Met Ala Pro Asp Ile Ser Cys Phe Phe Leu Val Ala Leu Phe Leu Ala  
 1 5 10 15  
 Ser Cys Arg Ala Thr Thr Ser Ser Asp Gln Lys Cys Ile Glu Lys Glu  
 20 25 30  
 Val Asn Lys Thr Tyr Asn Cys Glu Asn Leu Gly Leu Asn Glu Ile Pro  
 35 40 45  
 Gly Thr Leu Pro Asn Ser Thr Glu Cys Leu Glu Phe Ser Phe Asn Val  
 50 55 60  
 Leu Pro Thr Ile Gln Asn Thr Thr Phe Ser Arg Leu Ile Asn Leu Thr  
 65 70 75 80  
 Phe Leu Asp Leu Thr Arg Cys Gln Ile Tyr Trp Ile His Glu Asp Thr  
 85 90 95



Phe	Gln	Ser	Gln	His	Arg	Leu	Asp	Thr	Leu	Val	Leu	Thr	Ala	Asn	Pro	100	105	110
Leu	Ile	Phe	Met	Ala	Glu	Thr	Ala	Leu	Ser	Gly	Pro	Lys	Ala	Leu	Lys	115	120	125
His	Leu	Phe	Phe	Ile	Gln	Thr	Gly	Ile	Ser	Ser	Ile	Asp	Phe	Ile	Pro	130	135	140
Leu	His	Asn	Gln	Lys	Thr	Leu	Glu	Ser	Leu	Tyr	Leu	Gly	Ser	Asn	His	145	150	155
Ile	Ser	Ser	Ile	Lys	Leu	Pro	Lys	Gly	Phe	Pro	Thr	Glu	Lys	Leu	Lys	165	170	175
Val	Leu	Asp	Phe	Gln	Asn	Asn	Ala	Ile	His	Tyr	Leu	Ser	Lys	Glu	Asp	180	185	190
Met	Ser	Ser	Leu	Gln	Gln	Ala	Thr	Asn	Leu	Ser	Leu	Asn	Leu	Asn	Gly	195	200	205
Asn	Asp	Ile	Ala	Gly	Ile	Glu	Pro	Gly	Ala	Phe	Asp	Ser	Ala	Val	Phe	210	215	220
Gln	Ser	Leu	Asn	Phe	Gly	Gly	Thr	Gln	Asn	Leu	Leu	Val	Ile	Phe	Lys	225	230	235
Gly	Leu	Lys	Asn	Ser	Thr	Ile	Gln	Ser	Leu	Trp	Leu	Gly	Thr	Phe	Glu	245	250	255
Asp	Met	Asp	Asp	Glu	Asp	Ile	Ser	Pro	Ala	Val	Phe	Glu	Gly	Leu	Cys	260	265	270
Glu	Met	Ser	Val	Glu	Ser	Ile	Asn	Leu	Gln	Lys	His	Tyr	Phe	Phe	Asn	275	280	285
Ile	Ser	Ser	Asn	Thr	Phe	His	Cys	Phe	Ser	Gly	Leu	Gln	Glu	Leu	Asp	290	295	300
Leu	Thr	Ala	Thr	His	Leu	Ser	Glu	Leu	Pro	Ser	Gly	Leu	Val	Gly	Leu	305	310	315
Ser	Thr	Leu	Lys	Lys	Leu	Val	Leu	Ser	Ala	Asn	Lys	Phe	Glu	Asn	Leu	325	330	335
Cys	Gln	Ile	Ser	Ala	Ser	Asn	Phe	Pro	Ser	Leu	Thr	His	Leu	Ser	Ile	340	345	350
Lys	Gly	Asn	Thr	Lys	Arg	Leu	Glu	Leu	Gly	Thr	Gly	Cys	Leu	Glu	Asn	355	360	365
Leu	Glu	Asn	Leu	Arg	Glu	Leu	Asp	Leu	Ser	His	Asp	Asp	Ile	Glu	Thr	370	375	380
Ser	Asp	Cys	Cys	Asn	Leu	Gln	Leu	Arg	Asn	Leu	Ser	His	Leu	Gln	Ser	385	390	395

Leu Asn Leu Ser Tyr Asn Glu Pro Leu Ser Leu Lys Thr Glu Ala Phe  
 405 410 415  
 Lys Glu Cys Pro Gln Leu Glu Leu Leu Asp Leu Ala Phe Thr Arg Leu  
 420 425 430  
 Lys Val Lys Asp Ala Gln Ser Pro Phe Gln Asn Leu His Leu Leu Lys  
 435 440 445  
 Val Leu Asn Leu Ser His Ser Leu Leu Asp Ile Ser Ser Glu Gln Leu  
 450 455 460  
 Phe Asp Gly Leu Pro Ala Leu Gln His Leu Asn Leu Gln Gly Asn His  
 465 470 475 480  
 Phe Pro Lys Gly Asn Ile Gln Lys Thr Asn Ser Leu Gln Thr Leu Gly  
 485 490 495  
 Arg Leu Glu Ile Leu Val Leu Ser Phe Cys Asp Leu Ser Ser Ile Asp  
 500 505 510  
 Gln His Ala Phe Thr Ser Leu Lys Met Met Asn His Val Asp Leu Ser  
 515 520 525  
 His Asn Arg Leu Thr Ser Ser Ser Ile Glu Ala Leu Ser His Leu Lys  
 530 535 540  
 Gly Ile Tyr Leu Asn Leu Ala Ser Asn His Ile Ser Ile Ile Leu Pro  
 545 550 555 560  
 Ser Leu Leu Pro Ile Leu Ser Gln Gln Arg Thr Ile Asn Leu Arg Gln  
 565 570 575  
 Asn Pro Leu Asp Cys Thr Cys Ser Asn Ile Tyr Phe Leu Glu Trp Tyr  
 580 585 590  
 Lys Glu Asn Met Gln Lys Leu Glu Asp Thr Glu Asp Thr Leu Cys Glu  
 595 600 605  
 Asn Pro Pro Leu Leu Arg Gly Val Arg Leu Ser Asp Val Thr Leu Ser  
 610 615 620  
 Cys Ser Met Ala Ala Val Gly Ile Phe Phe Leu Ile Val Phe Leu Leu  
 625 630 635 640  
 Val Phe Ala Ile Leu Leu Ile Phe Ala Val Lys Tyr Phe Leu Arg Trp  
 645 650 655  
 Lys Tyr Gln His Ile  
 660

<210> 108  
 <211> 312  
 <212> PRT  
 <213> Homo sapiens

<400> 108

Val	Thr	Leu	Ser	Pro	Lys	Asp	Cys	Gln	Val	Phe	Arg	Ser	Asp	His	Gly	
1				5					10					15		
Ser	Ser	Ile	Ser	Cys	Gln	Pro	Pro	Ala	Glu	Ile	Pro	Gly	Tyr	Leu	Pro	
			20					25					30			
Ala	Asp	Thr	Val	His	Leu	Ala	Val	Glu	Phe	Phe	Asn	Leu	Thr	His	Leu	
		35					40					45				
Pro	Ala	Asn	Leu	Leu	Gln	Gly	Ala	Ser	Lys	Leu	Gln	Glu	Leu	His	Leu	
	50					55					60					
Ser	Ser	Asn	Gly	Leu	Glu	Ser	Leu	Ser	Pro	Glu	Phe	Leu	Arg	Pro	Val	
65					70					75					80	
Pro	Gln	Leu	Arg	Val	Leu	Asp	Leu	Thr	Arg	Asn	Ala	Leu	Thr	Gly	Leu	
				85					90					95		
Pro	Pro	Gly	Leu	Phe	Gln	Ala	Ser	Ala	Thr	Leu	Asp	Thr	Leu	Val	Leu	
			100					105					110			
Lys	Glu	Asn	Gln	Leu	Glu	Val	Leu	Glu	Val	Ser	Trp	Leu	His	Gly	Leu	
		115					120					125				
Lys	Ala	Leu	Gly	His	Leu	Asp	Leu	Ser	Gly	Asn	Arg	Leu	Arg	Lys	Leu	
	130					135					140					
Pro	Pro	Gly	Leu	Leu	Ala	Asn	Phe	Thr	Leu	Leu	Arg	Thr	Leu	Asp	Leu	
145					150					155					160	
Gly	Glu	Asn	Gln	Leu	Glu	Thr	Leu	Pro	Pro	Asp	Leu	Leu	Arg	Gly	Pro	
				165					170					175		
Leu	Gln	Leu	Glu	Arg	Leu	His	Leu	Glu	Gly	Asn	Lys	Leu	Gln	Val	Leu	
			180					185					190			
Gly	Lys	Asp	Leu	Leu	Leu	Pro	Gln	Pro	Asp	Leu	Arg	Tyr	Leu	Phe	Leu	
		195					200					205				
Asn	Gly	Asn	Lys	Leu	Ala	Arg	Val	Ala	Ala	Gly	Ala	Phe	Gln	Gly	Leu	
	210					215					220					
Arg	Gln	Leu	Asp	Met	Leu	Asp	Leu	Ser	Asn	Asn	Ser	Leu	Ala	Ser	Val	
225					230					235					240	
Pro	Glu	Gly	Leu	Trp	Ala	Ser	Leu	Gly	Gln	Pro	Asn	Trp	Asp	Met	Arg	
				245					250					255		
Asp	Gly	Phe	Asp	Ile	Ser	Gly	Asn	Pro	Trp	Ile	Cys	Asp	Gln	Asn	Leu	
			260					265					270			
Ser	Asp	Leu	Tyr	Arg	Trp	Leu	Gln	Ala	Gln	Lys	Asp	Lys	Met	Phe	Ser	
		275					280					285				
Gln	Asn	Asp	Thr	Arg	Cys	Ala	Gly	Pro	Glu	Ala	Val	Lys	Gly	Gln	Thr	

290

295

300

Leu Leu Ala Val Ala Lys Ser Gln  
305 310

&lt;210&gt; 109

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: TIR Domain  
Consensus Sequence

&lt;400&gt; 109

Ala Phe Ile Ser Phe Ser Gly Lys Asp Asp Arg Asp Thr Phe Val Ser  
1 5 10 15

His Leu Leu Lys Glu Leu Glu Glu Lys Pro Gly Ile Lys Leu Phe Ile  
20 25 30

Asp Asp Arg Asp Glu Leu Pro Gly Glu Ser Ile Leu Glu Asn Leu Phe  
35 40 45

Glu Ala Ile Glu Lys Ser Arg Arg Ala Ile Val Ile Leu Ser Ser Asn  
50 55 60

Tyr Ala Ser Ser Ser Trp Cys Leu Asp Glu Leu Val Glu Ala Val Lys  
65 70 75 80

Leu Ala Leu Glu Gln Gly Asn Lys Lys Val Ile Leu Pro Ile Phe Tyr  
85 90 95

Lys Val Asp Pro Ser Asp Val Arg Lys Gln Ser Gly Lys Phe Gly Lys  
100 105 110

Ala Phe Leu Lys Thr Leu Lys Trp Phe Gly Asp Lys Thr Ser Gln Arg  
115 120 125

Ile Arg Phe Trp Lys Lys Ala Leu Tyr Ala Met Pro Val  
130 135 140

&lt;210&gt; 110

&lt;211&gt; 1242

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 110

Met Asp Glu Lys Val Asn Ile Thr Val Cys Gly Glu Tyr Thr Tyr Gly  
1 5 10 15

Lys Pro Val Pro Gly Leu Ala Thr Val Ser Leu Cys Arg Lys Leu Ser  
20 25 30

Arg Val Leu Asn Cys Asp Lys Gln Glu Val Cys Glu Glu Phe Ser Gln

35					40					45						
Gln	Leu	Asn	Ser	Asn	Gly	Cys	Ile	Thr	Gln	Gln	Val	His	Thr	Lys	Met	
50					55					60						
Leu	Gln	Ile	Thr	Asn	Thr	Gly	Phe	Glu	Met	Lys	Leu	Arg	Val	Glu	Ala	
65					70					75					80	
Arg	Ile	Arg	Glu	Glu	Gly	Thr	Asp	Leu	Glu	Val	Thr	Ala	Asn	Arg	Ile	
85					90					95						
Ser	Glu	Ile	Thr	Asn	Ile	Val	Ser	Lys	Leu	Lys	Phe	Val	Lys	Val	Asp	
100					105					110						
Ser	His	Phe	Arg	Gln	Gly	Ile	Pro	Phe	Phe	Ala	Gln	Val	Leu	Leu	Val	
115					120					125						
Asp	Gly	Lys	Gly	Val	Pro	Ile	Pro	Asn	Lys	Leu	Phe	Phe	Ile	Ser	Val	
130					135					140						
Asn	Asp	Ala	Asn	Tyr	Tyr	Ser	Asn	Ala	Thr	Thr	Asn	Glu	Gln	Gly	Leu	
145					150					155					160	
Ala	Gln	Phe	Ser	Ile	Asn	Thr	Thr	Ser	Ile	Ser	Val	Asn	Lys	Leu	Phe	
165					170					175						
Val	Arg	Val	Phe	Thr	Val	His	Pro	Asn	Leu	Cys	Phe	His	Tyr	Ser	Trp	
180					185					190						
Val	Ala	Glu	Asp	His	Gln	Gly	Ala	Gln	His	Thr	Ala	Asn	Arg	Val	Phe	
195					200					205						
Ser	Leu	Ser	Gly	Ser	Tyr	Ile	His	Leu	Glu	Pro	Val	Ala	Gly	Thr	Leu	
210					215					220						
Pro	Cys	Gly	His	Thr	Glu	Thr	Ile	Thr	Ala	His	Tyr	Thr	Leu	Asn	Arg	
225					230					235					240	
Gln	Ala	Met	Gly	Glu	Leu	Ser	Glu	Leu	Ser	Phe	His	Tyr	Leu	Ile	Met	
245					250					255						
Ala	Lys	Gly	Val	Ile	Val	Arg	Ser	Gly	Thr	His	Thr	Leu	Pro	Val	Glu	
260					265					270						
Ser	Gly	Asp	Met	Lys	Gly	Ser	Phe	Ala	Leu	Ser	Phe	Pro	Val	Glu	Ser	
275					280					285						
Asp	Val	Ala	Pro	Ile	Ala	Arg	Met	Phe	Ile	Phe	Ala	Ile	Leu	Pro	Asp	
290					295					300						
Gly	Glu	Val	Val	Gly	Asp	Ser	Glu	Lys	Phe	Glu	Ile	Glu	Asn	Cys	Leu	
305					310					315					320	
Ala	Asn	Lys	Val	Asp	Leu	Ser	Phe	Ser	Pro	Ala	Gln	Ser	Pro	Pro	Ala	
325					330					335						
Ser	His	Ala	His	Leu	Gln	Val	Ala	Ala	Ala	Pro	Gln	Ser	Leu	Cys	Ala	

340					345					350					
Leu	Arg	Ala	Val	Asp	Gln	Ser	Val	Leu	Leu	Met	Lys	Pro	Glu	Ala	Glu
		355					360					365			
Leu	Ser	Val	Ser	Ser	Val	Tyr	Asn	Leu	Leu	Thr	Val	Lys	Asp	Leu	Thr
		370				375					380				
Asn	Phe	Pro	Asp	Asn	Val	Asp	Gln	Gln	Glu	Glu	Glu	Gln	Gly	His	Cys
385					390					395					400
Pro	Arg	Pro	Phe	Phe	Ile	His	Asn	Gly	Ala	Ile	Tyr	Val	Pro	Leu	Ser
				405					410					415	
Ser	Asn	Glu	Ala	Asp	Ile	Tyr	Ser	Phe	Leu	Lys	Gly	Met	Gly	Leu	Lys
			420					425					430		
Val	Phe	Thr	Asn	Ser	Lys	Ile	Arg	Lys	Pro	Lys	Ser	Cys	Ser	Val	Ile
		435					440					445			
Pro	Ser	Val	Ser	Ala	Gly	Ala	Val	Gly	Gln	Gly	Tyr	Tyr	Gly	Ala	Gly
		450				455					460				
Leu	Gly	Val	Val	Glu	Arg	Pro	Tyr	Val	Pro	Gln	Leu	Gly	Thr	Tyr	Asn
465					470					475					480
Val	Ile	Pro	Leu	Asn	Asn	Glu	Gln	Ser	Ser	Gly	Pro	Val	Pro	Glu	Thr
				485					490					495	
Val	Arg	Ser	Tyr	Phe	Pro	Glu	Thr	Trp	Ile	Trp	Glu	Leu	Val	Ala	Val
			500					505					510		
Asn	Ser	Ser	Gly	Val	Ala	Glu	Val	Gly	Val	Thr	Val	Pro	Asp	Thr	Ile
		515					520					525			
Thr	Glu	Trp	Lys	Ala	Gly	Ala	Phe	Cys	Leu	Ser	Glu	Asp	Ala	Gly	Leu
		530				535					540				
Gly	Ile	Ser	Ser	Thr	Ala	Ser	Leu	Arg	Ala	Phe	Gln	Pro	Phe	Phe	Val
545					550					555					560
Glu	Leu	Thr	Met	Pro	Tyr	Ser	Val	Ile	Arg	Gly	Glu	Val	Phe	Thr	Leu
			565						570					575	
Lys	Ala	Thr	Val	Leu	Asn	Tyr	Leu	Pro	Lys	Cys	Ile	Arg	Val	Ser	Val
			580					585					590		
Gln	Leu	Lys	Ala	Ser	Pro	Ala	Phe	Leu	Ala	Ser	Gln	Asn	Thr	Lys	Gly
		595					600					605			
Glu	Glu	Ser	Tyr	Cys	Ile	Cys	Gly	Asn	Glu	Arg	Gln	Thr	Leu	Ser	Trp
		610				615					620				
Thr	Val	Thr	Pro	Lys	Thr	Leu	Gly	Asn	Val	Asn	Phe	Ser	Val	Ser	Ala
625					630					635					640
Glu	Ala	Met	Gln	Ser	Leu	Glu	Leu	Cys	Gly	Asn	Glu	Val	Val	Glu	Val

645										650					655				
Pro	Glu	Ile	Lys	Arg	Lys	Asp	Thr	Val	Ile	Lys	Thr	Leu	Leu	Val	Glu				
			660					665					670						
Ala	Glu	Gly	Ile	Glu	Gln	Glu	Lys	Thr	Phe	Ser	Ser	Met	Thr	Cys	Ala				
		675					680					685							
Ser	Gly	Ala	Asn	Val	Ser	Glu	Gln	Leu	Ser	Leu	Lys	Leu	Pro	Ser	Asn				
	690					695					700								
Val	Val	Lys	Glu	Ser	Ala	Arg	Ala	Ser	Phe	Ser	Val	Leu	Gly	Asp	Ile				
705					710					715					720				
Leu	Gly	Ser	Ala	Met	Gln	Asn	Ile	Gln	Asn	Leu	Leu	Gln	Met	Pro	Tyr				
				725				730						735					
Gly	Cys	Gly	Glu	Gln	Asn	Met	Val	Leu	Phe	Ala	Pro	Asn	Ile	Tyr	Val				
			740					745					750						
Leu	Asn	Tyr	Leu	Asn	Glu	Thr	Gln	Gln	Leu	Thr	Gln	Glu	Ile	Lys	Ala				
		755					760					765							
Lys	Ala	Val	Gly	Tyr	Leu	Ile	Thr	Gly	Tyr	Gln	Arg	Gln	Leu	Asn	Tyr				
	770					775					780								
Lys	His	Gln	Asp	Gly	Ser	Tyr	Ser	Thr	Phe	Gly	Glu	Arg	Tyr	Gly	Arg				
785					790					795					800				
Asn	Gln	Gly	Asn	Thr	Trp	Leu	Thr	Ala	Phe	Val	Leu	Lys	Thr	Phe	Ala				
				805					810					815					
Gln	Ala	Arg	Ser	Tyr	Ile	Phe	Ile	Asp	Glu	Ala	His	Ile	Thr	Gln	Ser				
			820					825					830						
Leu	Thr	Trp	Leu	Ser	Gln	Met	Gln	Lys	Asp	Asn	Gly	Cys	Phe	Arg	Ser				
		835					840					845							
Ser	Gly	Ser	Leu	Leu	Asn	Asn	Ala	Ile	Lys	Gly	Gly	Val	Glu	Asp	Glu				
	850					855					860								
Ala	Thr	Leu	Ser	Ala	Tyr	Val	Thr	Ile	Ala	Leu	Leu	Glu	Ile	Pro	Leu				
865					870					875					880				
Pro	Val	Thr	Asn	Pro	Ile	Val	Arg	Asn	Ala	Leu	Phe	Cys	Leu	Glu	Ser				
				885					890					895					
Ala	Trp	Asn	Val	Ala	Lys	Glu	Gly	Thr	His	Gly	Ser	His	Val	Tyr	Thr				
			900					905					910						
Lys	Ala	Leu	Leu	Ala	Tyr	Ala	Phe	Ser	Leu	Leu	Gly	Lys	Gln	Asn	Gln				
	915						920					925							
Asn	Arg	Glu	Ile	Leu	Asn	Ser	Leu	Asp	Lys	Glu	Ala	Val	Lys	Glu	Asp				
	930					935					940								
Asn	Leu	Val	His	Trp	Glu	Arg	Pro	Gln	Arg	Pro	Lys	Ala	Pro	Val	Gly				

945		950		955		960
His Leu Tyr Gln Thr	Gln Ala Pro Ser	Ala Glu Val Glu Met Thr Ser				
	965	970			975	
Tyr Val Leu Leu Ala Tyr Leu Thr	Ala Gln Pro Ala Pro Thr Ser Gly					
	980	985			990	
Asp Leu Thr Ser Ala Thr Asn Ile Val	Lys Trp Ile Met Lys Gln Gln					
	995	1000			1005	
Asn Ala Gln Gly Gly Phe Ser Ser Thr	Gln Asp Thr Val Val Ala Leu					
	1010	1015			1020	
His Ala Leu Ser Arg Tyr Gly Ala Ala Thr	Phe Thr Arg Thr Glu Lys					
	1025	1030			1035	1040
Thr Ala Gln Val Thr Val Gln Asp Ser	Gln Thr Phe Ser Thr Asn Phe					
	1045	1050			1055	
Gln Val Asp Asn Asn Asn Leu Leu Leu Leu	Gln Gln Ile Ser Leu Pro					
	1060	1065			1070	
Glu Leu Pro Gly Glu Tyr Val Ile Thr Val Thr	Gly Glu Arg Cys Val					
	1075	1080			1085	
Tyr Leu Gln Thr Ser Met Lys Tyr Asn Ile Leu	Pro Glu Lys Glu Asp					
	1090	1095			1100	
Ser Pro Phe Ala Leu Lys Val Gln Thr Val Pro	Gln Thr Cys Asp Gly					
	1105	1110			1115	1120
His Lys Ala His Thr Ser Phe Gln Ile Ser Leu Thr	Ile Ser Tyr Thr					
	1125	1130			1135	
Gly Asn Arg Pro Ala Ser Asn Met Val Ile Val Asp	Val Lys Met Val					
	1140	1145			1150	
Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met	Leu Glu Arg Ser					
	1155	1160			1165	
Ser Ser Val Ser Arg Thr Glu Val Ser Asn Asn His	Val Leu Ile Tyr					
	1170	1175			1180	
Val Glu Gln Val Thr Asn Gln Thr Leu Ser Phe Ser	Phe Met Val Leu					
	1185	1190			1195	1200
Gln Asp Ile Pro Val Gly Asp Leu Lys Pro Ala Ile	Val Lys Val Tyr					
	1205	1210			1215	
Asp Tyr Tyr Glu Thr Asp Glu Ser Val Val Ala Glu	Tyr Ile Ala Pro					
	1220	1225			1230	
Cys Ser Thr Asp Thr Glu His Gly Asn Val						
	1235	1240				



<210> 111  
 <211> 1495  
 <212> PRT  
 <213> Mus musculus

<400> 111

Met	Arg	Arg	Asn	Gln	Leu	Pro	Thr	Pro	Ala	Phe	Leu	Leu	Leu	Phe	Leu
1				5					10					15	
Leu	Leu	Pro	Arg	Asp	Ala	Thr	Thr	Ala	Thr	Ala	Lys	Pro	Gln	Tyr	Val
			20					25					30		
Val	Leu	Val	Pro	Ser	Glu	Val	Tyr	Gln	Glu	Ser	Leu	Lys	Arg	Pro	Cys
		35					40					45			
Val	Ser	Leu	Asn	His	Val	Asn	Glu	Thr	Val	Met	Leu	Ser	Leu	Thr	Leu
	50					55					60				
Glu	Tyr	Ala	Met	Gln	Gln	Thr	Lys	Leu	Leu	Thr	Asp	Gln	Ala	Val	Asp
65					70					75					80
Lys	Asp	Ser	Phe	Tyr	Cys	Ser	Pro	Phe	Thr	Ile	Ser	Gly	Ser	Pro	Leu
			85						90					95	
Pro	Tyr	Thr	Phe	Ile	Thr	Val	Glu	Ile	Lys	Gly	Pro	Thr	Gln	Arg	Phe
			100					105					110		
Ile	Lys	Lys	Lys	Ser	Ile	Gln	Ile	Ile	Lys	Ala	Glu	Ser	Pro	Val	Phe
	115						120					125			
Val	Gln	Thr	Asp	Lys	Pro	Ile	Tyr	Lys	Pro	Gly	Gln	Ile	Val	Lys	Phe
	130					135					140				
Arg	Val	Val	Ser	Val	Asp	Ile	Ser	Phe	Arg	Pro	Leu	Asn	Glu	Thr	Phe
145					150					155					160
Pro	Val	Val	Tyr	Ile	Glu	Thr	Pro	Lys	Arg	Asn	Arg	Ile	Phe	Gln	Trp
			165					170						175	
Gln	Asn	Ile	His	Leu	Ala	Gly	Gly	Leu	His	Gln	Leu	Ser	Phe	Pro	Leu
		180						185					190		
Ser	Val	Glu	Pro	Ala	Leu	Gly	Ile	Tyr	Lys	Val	Val	Val	Gln	Lys	Asp
	195						200					205			
Ser	Gly	Lys	Lys	Ile	Glu	His	Ser	Phe	Glu	Val	Lys	Glu	Tyr	Val	Leu
210					215						220				
Pro	Lys	Phe	Glu	Val	Ile	Ile	Lys	Met	Gln	Lys	Thr	Met	Ala	Phe	Leu
225					230					235					240
Glu	Glu	Glu	Leu	Pro	Ile	Thr	Ala	Cys	Gly	Val	Tyr	Thr	Tyr	Gly	Lys
			245						250					255	
Pro	Val	Pro	Gly	Leu	Val	Thr	Leu	Arg	Val	Cys	Arg	Lys	Tyr	Ser	Arg
			260					265					270		

Tyr	Arg	Ser	Thr	Cys	His	Asn	Gln	Asn	Ser	Met	Ser	Ile	Cys	Ala	Glu	275	280	285
Phe	Ser	Gln	Gln	Ala	Asp	Asp	Lys	Gly	Cys	Phe	Ser	Gln	Val	Val	Lys	290	295	300
Thr	Lys	Val	Phe	Gln	Leu	Ser	Gln	Lys	Gly	His	Asp	Met	Lys	Ile	Glu	305	310	315
Val	Glu	Ala	Lys	Ile	Lys	Glu	Glu	Gly	Thr	Gly	Ile	Glu	Leu	Thr	Gly	325	330	335
Ile	Gly	Ser	Cys	Glu	Ile	Ala	Asn	Ala	Leu	Ser	Lys	Leu	Lys	Phe	Thr	340	345	350
Lys	Val	Asn	Thr	Asn	Tyr	Arg	Pro	Gly	Leu	Pro	Phe	Ser	Gly	Gln	Val	355	360	365
Leu	Leu	Val	Asp	Glu	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Lys	Asn	Ile	Thr	370	375	380
Ser	Val	Val	Ser	Pro	Leu	Gly	Tyr	Leu	Ser	Ile	Phe	Thr	Thr	Asp	Glu	385	390	395
His	Gly	Leu	Ala	Asn	Ile	Ser	Ile	Asp	Thr	Ser	Asn	Phe	Thr	Ala	Pro	405	410	415
Phe	Leu	Arg	Val	Val	Val	Thr	Tyr	Lys	Gln	Asn	His	Val	Cys	Tyr	Asp	420	425	430
Asn	Trp	Trp	Leu	Asp	Glu	Phe	His	Thr	Gln	Ala	Asp	His	Ser	Ala	Thr	435	440	445
Leu	Val	Phe	Ser	Pro	Ser	Gln	Ser	Tyr	Ile	Gln	Leu	Glu	Leu	Val	Phe	450	455	460
Gly	Thr	Leu	Ala	Cys	Gly	Gln	Thr	Gln	Glu	Ile	Arg	Ile	His	Tyr	Leu	465	470	475
Leu	Asn	Glu	Asp	Ile	Met	Lys	Asn	Glu	Lys	Thr	Leu	Thr	Phe	Tyr	Tyr	485	490	495
Leu	Ile	Lys	Ala	Arg	Gly	Ser	Ile	Gly	Asn	Leu	Gly	Ser	His	Val	Leu	500	505	510
Ser	Leu	Glu	Gln	Gly	Asn	Met	Lys	Gly	Val	Phe	Ser	Leu	Pro	Ile	Gln	515	520	525
Val	Glu	Pro	Gly	Met	Ala	Pro	Glu	Ala	Gln	Leu	Leu	Ile	Tyr	Ala	Ile	530	535	540
Leu	Pro	Asn	Glu	Glu	Leu	Val	Ala	Asp	Ala	Gln	Asn	Phe	Glu	Ile	Glu	545	550	555
Lys	Cys	Phe	Ala	Asn	Lys	Val	Asn	Leu	Ser	Phe	Pro	Ser	Ala	Gln	Ser	565	570	575

Leu Pro Ala Ser Asp Thr His Leu Lys Val Lys Ala Ala Pro Leu Ser  
 580 585 590  
 Leu Cys Ala Leu Thr Ala Val Asp Gln Ser Val Leu Leu Leu Lys Pro  
 595 600 605  
 Glu Ala Lys Leu Ser Pro Gln Ser Ile Tyr Asn Leu Leu Pro Gly Lys  
 610 615 620  
 Thr Val Gln Gly Ala Phe Phe Gly Val Pro Val Tyr Lys Asp His Glu  
 625 630 635 640  
 Asn Cys Ile Ser Gly Glu Asp Ile Thr His Asn Gly Ile Val Tyr Thr  
 645 650 655  
 Pro Lys His Ser Leu Gly Asp Asn Asp Ala His Ser Ile Phe Gln Ser  
 660 665 670  
 Val Gly Ile Asn Ile Phe Thr Asn Ser Lys Ile His Lys Pro Arg Phe  
 675 680 685  
 Cys Gln Glu Phe Gln His Tyr Pro Ala Met Gly Gly Val Ala Pro Gln  
 690 695 700  
 Ala Leu Ala Val Ala Ala Ser Gly Pro Gly Ser Ser Phe Arg Ala Met  
 705 710 715 720  
 Gly Val Pro Met Met Gly Leu Asp Tyr Ser Asp Glu Ile Asn Gln Val  
 725 730 735  
 Val Glu Val Arg Glu Thr Val Arg Lys Tyr Phe Pro Glu Thr Trp Ile  
 740 745 750  
 Trp Asp Leu Val Pro Leu Asp Val Ser Gly Asp Gly Glu Leu Ala Val  
 755 760 765  
 Lys Val Pro Asp Thr Ile Thr Glu Trp Lys Ala Ser Ala Phe Cys Leu  
 770 775 780  
 Ser Gly Thr Thr Gly Leu Gly Ser Ser Ser Thr Ile Ser Leu Gln Ala  
 785 790 795 800  
 Phe Gln Pro Phe Phe Leu Glu Leu Thr Leu Pro Tyr Ser Val Val Arg  
 805 810 815  
 Gly Glu Ala Phe Thr Leu Lys Ala Thr Val Leu Asn Tyr Met Ser His  
 820 825 830  
 Cys Ile Gln Ile Arg Val Asp Leu Glu Ile Ser Pro Asp Phe Leu Ala  
 835 840 845  
 Val Pro Val Gly Gly His Glu Asn Ser His Cys Ile Cys Gly Asn Glu  
 850 855 860  
 Arg Lys Thr Val Ser Trp Ala Val Thr Pro Lys Ser Leu Gly Glu Val  
 865 870 875 880

Asn Phe Thr Arg Thr Ala Glu Ala Leu Glu Ser Gln Glu Leu Cys Gly  
 885 890 895  
 Asn Lys Leu Thr Glu Val Pro Ala Leu Val His Lys Asp Thr Val Val  
 900 905 910  
 Lys Ser Val Ile Val Glu Pro Glu Gly Ile Glu Lys Glu Gln Thr Tyr  
 915 920 925  
 Asn Thr Leu Leu Cys Pro Gln Asp Thr Glu Leu Gln Asp Asn Ser Ser  
 930 935 940  
 Leu Glu Leu Pro Pro Asn Val Val Glu Gly Ser Ala Arg Ala Thr His  
 945 950 955 960  
 Ser Val Leu Gly Asp Ile Leu Gly Ser Ala Met Gln Asn Leu Gln Asn  
 965 970 975  
 Leu Leu Gln Met Pro Tyr Gly Cys Gly Glu Gln Asn Met Val Leu Phe  
 980 985 990  
 Val Pro Asn Ile Tyr Val Leu Asn Tyr Leu Asn Glu Thr Gln Gln Leu  
 995 1000 1005  
 Thr Glu Ala Ile Lys Ser Lys Ala Ile Asn Tyr Leu Ile Ser Gly Tyr  
 1010 1015 1020  
 Gln Arg Gln Leu Asn Tyr Gln His Ser Asp Gly Ser Tyr Ser Thr Phe  
 1025 1030 1035 1040  
 Gly Asn His Gly Gly Gly Asn Thr Pro Gly Asn Thr Trp Leu Thr Ala  
 1045 1050 1055  
 Phe Val Leu Lys Ala Phe Ala Gln Ala Gln Ser His Ile Phe Ile Glu  
 1060 1065 1070  
 Lys Thr His Ile Thr Asn Ala Phe Asn Trp Leu Ser Met Lys Gln Lys  
 1075 1080 1085  
 Glu Asn Gly Cys Phe Gln Gln Ser Gly Tyr Leu Leu Asn Asn Ala Met  
 1090 1095 1100  
 Lys Gly Gly Val Asp Asp Glu Val Thr Leu Ser Ala Tyr Ile Thr Ile  
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 Ala Leu Leu Glu Met Pro Leu Pro Val Thr His Ser Ala Val Arg Asn  
 1125 1130 1135  
 Ala Leu Phe Cys Leu Glu Thr Ala Trp Ala Ser Ile Ser Gln Ser Gln  
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 Glu Ser His Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu  
 1155 1160 1165  
 Ala Gly Asn Lys Ala Lys Arg Ser Glu Leu Leu Glu Ser Leu Asn Lys  
 1170 1175 1180

Asp Ala Val Lys Glu Glu Asp Ser Leu His Trp Gln Arg Pro Gly Asp  
 1185 1190 1195 1200  
 Val Gln Lys Val Lys Ala Leu Ser Phe Tyr Gln Pro Arg Ala Pro Ser  
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 Ala Glu Val Glu Met Thr Ala Tyr Val Leu Leu Ala Tyr Leu Thr Ser  
 1220 1225 1230  
 Glu Ser Ser Arg Pro Thr Arg Asp Leu Ser Ser Ser Asp Leu Ser Thr  
 1235 1240 1245  
 Ala Ser Lys Ile Val Lys Trp Ile Ser Lys Gln Gln Asn Ser Asp Gly  
 1250 1255 1260  
 Gly Leu Leu Leu Thr Gln Asp Thr Val Val Ala Leu Gln Ala Leu Ser  
 1265 1270 1275 1280  
 Lys Tyr Gly Ser Ala Thr Phe Thr Arg Ser Gln Lys Glu Val Leu Val  
 1285 1290 1295  
 Thr Ser Arg Ser Ser Gly Thr Phe Ser Lys Thr Phe His Val Asn Ser  
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 Gly Asn Arg Leu Leu Leu Gln Glu Val Arg Leu Pro Asp Leu Pro Gly  
 1315 1320 1325  
 Asn Tyr Val Thr Lys Gly Ser Gly Ser Gly Cys Val Tyr Leu Gln Thr  
 1330 1335 1340  
 Ser Leu Lys Tyr Asn Ile Leu Pro Val Ala Asp Gly Lys Ala Pro Phe  
 1345 1350 1355 1360  
 Ala Leu Gln Val Asn Thr Leu Pro Leu Asn Phe Asp Lys Ala Glu Asp  
 1365 1370 1375  
 His Arg Thr Phe Gln Ile Arg Ile Asn Val Ser Tyr Thr Gly Glu Arg  
 1380 1385 1390  
 Pro Ser Ser Asn Met Val Ile Val Asp Val Lys Met Val Ser Gly Phe  
 1395 1400 1405  
 Ile Pro Met Lys Pro Ser Val Lys Arg Leu Gln Asp Gln Pro Asn Ile  
 1410 1415 1420  
 Gln Arg Thr Glu Val Asn Thr Asn His Val Leu Ile Tyr Ile Glu Lys  
 1425 1430 1435 1440  
 Leu Thr Asn Gln Thr Leu Gly Phe Ser Phe Ala Val Glu Gln Asp Ile  
 1445 1450 1455  
 Pro Val Lys Asn Leu Lys Pro Ala Pro Ile Lys Val Tyr Asp Tyr Tyr  
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 Glu Thr Asp Glu Phe Thr Val Glu Glu Tyr Ser Ala Pro Phe Ser Asp  
 1475 1480 1485

Gly Ser Glu Gln Gly Asn Ala  
 1490 1495

<210> 112  
 <211> 1473  
 <212> PRT  
 <213> Gallus gallus

<400> 112  
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 Val Arg Lys Met Trp Leu Lys Phe Ile Leu Ala Ile Leu Leu Leu His  
 20 25 30  
 Ala Ala Ala Gly Lys Glu Pro Glu Pro Gln Tyr Val Leu Met Val Pro  
 35 40 45  
 Ala Val Leu Gln Ser Asp Ser Pro Ser Gln Val Cys Leu Gln Phe Phe  
 50 55 60  
 Asn Leu Asn Gln Thr Ile Ser Val Arg Val Val Leu Glu Tyr Asp Thr  
 65 70 75 80  
 Ile Asn Thr Thr Ile Phe Glu Lys Asn Thr Thr Thr Ser Asn Gly Leu  
 85 90 95  
 Gln Cys Leu Asn Phe Met Ile Pro Pro Val Thr Ser Val Ser Leu Ala  
 100 105 110  
 Phe Ile Ser Phe Thr Ala Lys Gly Thr Thr Phe Asp Leu Lys Glu Arg  
 115 120 125  
 Arg Ser Val Met Ile Trp Asn Met Glu Ser Phe Val Phe Val Gln Thr  
 130 135 140  
 Asp Lys Pro Ile Tyr Lys Pro Gly Gln Ser Val Met Phe Arg Val Val  
 145 150 155 160  
 Ala Leu Asp Phe Asn Phe Lys Pro Val Gln Glu Met Tyr Pro Leu Ile  
 165 170 175  
 Ala Val Gln Asp Pro Gln Asn Asn Arg Ile Phe Gln Trp Gln Asn Val  
 180 185 190  
 Thr Ser Glu Ile Asn Ile Val Gln Ile Glu Phe Pro Leu Thr Glu Glu  
 195 200 205  
 Pro Ile Leu Gly Asn Tyr Lys Ile Ile Val Thr Lys Lys Ser Gly Glu  
 210 215 220  
 Arg Thr Ser His Ser Phe Leu Val Glu Glu Tyr Val Leu Pro Lys Phe  
 225 230 235 240  
 Asp Val Thr Val Thr Ala Pro Gly Ser Leu Thr Val Met Asp Ser Glu  
 245 250 255

Leu Thr Val Lys Ile Cys Ala Val Tyr Thr Tyr Gly Gln Pro Val Glu  
 260 265 270  
 Gly Lys Val Gln Leu Ser Val Cys Arg Asp Phe Asp Ser Tyr Gly Arg  
 275 280 285  
 Cys Lys Lys Ser Pro Val Cys Gln Ser Phe Thr Lys Asp Leu Asp Thr  
 290 295 300  
 Asp Gly Cys Leu Ser His Ile Leu Ser Ser Lys Val Phe Glu Leu Asn  
 305 310 315 320  
 Arg Ile Gly Tyr Lys Arg Asn Leu Asp Val Lys Ala Ile Val Thr Glu  
 325 330 335  
 Lys Glu Gln Val Cys Asn Leu Thr Ala Thr Gln Ser Ile Ser Ile Thr  
 340 345 350  
 Gln Val Met Ser Ser Leu Gln Phe Glu Asn Val Asp His His Tyr Arg  
 355 360 365  
 Arg Gly Ile Pro Tyr Phe Gly Gln Ile Lys Leu Val Asp Lys Asp Asn  
 370 375 380  
 Ser Pro Ile Ser Asn Lys Val Ile Gln Leu Phe Val Asn Asn Lys Asn  
 385 390 395 400  
 Thr His Asn Phe Thr Thr Asp Ile Asn Gly Ile Ala Pro Phe Ser Ile  
 405 410 415  
 Asp Thr Ser Lys Ile Phe Asp Pro Glu Leu Ser Leu Lys Ala Leu Tyr  
 420 425 430  
 Lys Thr Ser Asp Gln Cys His Ser Glu Gly Trp Ile Glu Pro Ser Tyr  
 435 440 445  
 Pro Asp Ala Ser Leu Ser Val Gln Arg Leu Tyr Ser Trp Thr Ser Ser  
 450 455 460  
 Phe Val Arg Ile Glu Pro Leu Trp Lys Asp Met Ser Cys Gly Gln Lys  
 465 470 475 480  
 Arg Met Ile Thr Val Tyr Tyr Ile Leu Asn Thr Glu Gly Tyr Glu His  
 485 490 495  
 Ile Asn Ile Val Asn Phe Tyr Tyr Val Gly Met Ala Lys Gly Lys Ile  
 500 505 510  
 Val Leu Thr Gly Glu Ile Lys Val Asn Ile Gln Ala Asp Gln Asn Gly  
 515 520 525  
 Thr Phe Met Ile Pro Leu Val Val Asn Glu Lys Met Ala Pro Ala Leu  
 530 535 540  
 Arg Leu Leu Val Tyr Met Leu His Pro Ala Lys Glu Leu Val Ala Asp  
 545 550 555 560

Ser Val Arg Phe Ser Ile Glu Lys Cys Phe Lys Asn Lys Val Gln Leu  
 565 570 575  
 Gln Phe Ser Glu Lys Gln Met Leu Thr Thr Ser Asn Val Ser Leu Val  
 580 585 590  
 Ile Glu Ala Ala Ala Asn Ser Phe Cys Ala Val Arg Ala Val Asp Lys  
 595 600 605  
 Ser Met Leu Leu Leu Lys Ser Glu Thr Glu Leu Ser Ala Glu Thr Ile  
 610 615 620  
 Tyr Asn Leu His Pro Ile Gln Asp Leu Gln Gly Tyr Ile Phe Asn Gly  
 625 630 635 640  
 Leu Asn Leu Glu Asp Asp Pro Gln Asp Pro Cys Val Ser Ser Asp Asp  
 645 650 655  
 Ile Phe His Lys Gly Leu Tyr Tyr Arg Pro Leu Thr Ser Gly Leu Gly  
 660 665 670  
 Pro Asp Val Tyr Gln Phe Leu Arg Asp Met Gly Met Lys Phe Phe Thr  
 675 680 685  
 Asn Ser Lys Ile Arg Gln Pro Thr Val Cys Thr Arg Glu Thr Val Arg  
 690 695 700  
 Pro Pro Ser Tyr Phe Leu Asn Ala Gly Phe Thr Ala Ser Thr His His  
 705 710 715 720  
 Val Lys Leu Ser Ala Glu Val Ala Arg Glu Glu Arg Gly Lys Arg His  
 725 730 735  
 Ile Leu Glu Thr Ile Arg Glu Phe Phe Pro Glu Thr Trp Ile Trp Asp  
 740 745 750  
 Ile Ile Leu Ile Asn Ser Thr Gly Lys Ala Ser Val Ser Tyr Thr Ile  
 755 760 765  
 Pro Asp Thr Ile Thr Glu Trp Lys Ala Ser Ala Phe Cys Val Glu Glu  
 770 775 780  
 Leu Ala Gly Phe Gly Met Ser Val Pro Ala Thr Leu Thr Ala Phe Gln  
 785 790 795 800  
 Pro Phe Phe Val Asp Leu Thr Leu Pro Tyr Ser Ile Ile His Gly Glu  
 805 810 815  
 Asp Phe Leu Val Arg Ala Asn Val Phe Asn Tyr Leu Asn His Cys Ile  
 820 825 830  
 Lys Ile Asn Val Leu Leu Leu Glu Ser Leu Asp Tyr Gln Ala Lys Leu  
 835 840 845  
 Ile Ser Pro Glu Asp Asp Gly Cys Val Cys Ala Lys Ile Arg Lys Ser  
 850 855 860



Tyr Val Trp Asn Ile Phe Pro Lys Gly Thr Gly Asp Val Leu Phe Ser  
865 870 875 880  
Ile Thr Ala Glu Thr Asn Asp Asp Glu Ala Cys Glu Glu Glu Ala Leu  
885 890 895  
Arg Asn Ile Arg Ile Asp Tyr Arg Asp Thr Gln Ile Arg Ala Leu Leu  
900 905 910  
Val Glu Pro Glu Gly Ile Arg Arg Glu Glu Thr Gln Asn Phe Leu Ile  
915 920 925  
Cys Met Lys Asp Asp Val Ile Ser Gln Asp Val Ala Ile Asp Leu Pro  
930 935 940  
Thr Asn Val Val Glu Gly Ser Pro Arg Pro Ser Phe Ser Val Val Gly  
945 950 955 960  
Asp Ile Met Gly Thr Ala Ile Gln Asn Val His Gln Leu Leu Gln Met  
965 970 975  
Pro Phe Gly Asn Gly Glu Gln Asn Met Val Leu Phe Ala Pro Asn Ile  
980 985 990  
Tyr Val Leu Asp Tyr Leu Asp Lys Thr Arg Gln Leu Ser Glu Asp Val  
995 1000 1005  
Lys Ser Lys Thr Ile Gly Tyr Leu Val Ser Gly Tyr Gln Lys Gln Leu  
1010 1015 1020  
Ser Tyr Lys His Pro Asp Gly Ser Tyr Ser Thr Phe Gly Ile Arg Asp  
1025 1030 1035 1040  
Lys Glu Gly Asn Thr Trp Leu Thr Ala Phe Val Tyr Lys Ser Phe Ala  
1045 1050 1055  
Glu Ala Ser Arg Phe Ile Tyr Ile Asp Asp Asn Val Gln Ala Gln Thr  
1060 1065 1070  
Leu Ile Trp Leu Ala Thr Lys Gln Lys Thr Asp Gly Cys Phe Gln Ser  
1075 1080 1085  
Thr Gly Ile Leu Val Asn Asn Ala Met Lys Gly Gly Val Glu Asn Glu  
1090 1095 1100  
Leu Ser Leu Ser Ala Tyr Ile Thr Ile Ala Leu Leu Glu Ala Gly His  
1105 1110 1115 1120  
Ser Met Ser His Thr Val Ile Arg Asn Ala Phe Tyr Cys Leu Glu Thr  
1125 1130 1135  
Ala Ser Glu Lys Asn Ile Thr Asp Ile Tyr Thr Gln Ala Leu Val Ala  
1140 1145 1150  
Tyr Ala Phe Cys Leu Ala Gly Lys Ala Glu Ile Cys Glu Ser Phe Leu  
1155 1160 1165

Arg Glu Leu Gln Lys Ser Ala Lys Glu Val Asp Gly Ser Lys Tyr Trp  
 1170 1175 1180

Glu Gln Asn Gln Arg Ser Ala Pro Glu Lys Ser His Leu Leu Asp His  
 1185 1190 1195 1200

Val Gln Ser Thr Asp Val Glu Ile Thr Ser Tyr Val Leu Leu Ala Leu  
 1205 1210 1215

Leu Tyr Lys Pro Asn Arg Ser Gln Glu Asp Leu Thr Lys Ala Ser Ala  
 1220 1225 1230

Ile Val Gln Trp Ile Ile Arg Gln Gln Asn Ser Tyr Gly Gly Phe Ala  
 1235 1240 1245

Ser Met Gln Asp Thr Val Val Ala Leu Gln Ala Leu Ala Ala Tyr Gly  
 1250 1255 1260

Ala Ala Thr Tyr Asn Ser Val Thr Gln Asn Val Ile Lys Ile Asn Ser  
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Lys Asn Thr Phe Glu Lys Val Phe Thr Val Asn Asn Glu Asn Arg Leu  
 1285 1290 1295

Leu Leu Gln Gln Thr Pro Leu Pro Gln Val Pro Gly Lys Tyr Ser Leu  
 1300 1305 1310

Thr Val Asn Gly Thr Gly Cys Val Leu Ile Gln Thr Ala Leu Arg Tyr  
 1315 1320 1325

Asn Ile His Leu Pro Glu Gly Ala Phe Gly Phe Ser Leu Ser Val Gln  
 1330 1335 1340

Thr Ser Asn Ala Ser Cys Pro Arg Asp Gln Pro Gly Lys Phe Asp Ile  
 1345 1350 1355 1360

Val Leu Ile Ser Ser Tyr Thr Gly Lys Arg Ser Ser Ser Asn Met Val  
 1365 1370 1375

Ile Ile Asp Val Lys Met Leu Ser Gly Phe Val Pro Val Lys Ser Ser  
 1380 1385 1390

Leu Asp Gln Leu Ile Asp Asp His Thr Val Met Gln Val Glu Tyr Lys  
 1395 1400 1405

Lys Asn His Val Leu Leu Tyr Leu Gly Asn Ile Leu Gln Lys Arg Arg  
 1410 1415 1420

Lys Glu Val Thr Phe Ser Val Glu Gln Asp Phe Val Val Thr His Pro  
 1425 1430 1435 1440

Lys Pro Ala Pro Val Gln Ile Tyr Asp Tyr Tyr Glu Thr Glu Glu Tyr  
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Ala Val Ala Glu Tyr Met Ser Leu Cys Arg Gly Val Val Glu Glu Met  
 1460 1465 1470

Gly

<210> 113  
<211> 1450  
<212> PRT  
<213> Homo sapiens

<400> 113  
Ser Val Ser Gly Lys Pro Gln Tyr Met Val Leu Val Pro Ser Leu Leu  
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His Thr Glu Thr Thr Glu Lys Gly Cys Val Leu Leu Ser Tyr Leu Asn  
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Glu Thr Val Thr Val Ser Ala Leu Glu Ser Val Arg Gly Asn Arg Ser  
35 40 45  
Leu Phe Thr Asp Leu Glu Ala Glu Asn Asp Val Leu His Cys Val Ala  
50 55 60  
Phe Ala Val Pro Lys Ser Ser Ser Asn Glu Glu Val Met Phe Leu Thr  
65 70 75 80  
Val Gln Val Lys Gly Pro Thr Gln Glu Phe Lys Lys Arg Thr Thr Val  
85 90 95  
Met Val Lys Asn Glu Asp Ser Leu Val Phe Val Gln Thr Asp Lys Ser  
100 105 110  
Ile Tyr Lys Pro Gly Gln Thr Val Lys Phe Arg Val Val Ser Met Asp  
115 120 125  
Glu Asn Phe His Pro Leu Asn Glu Leu Ile Pro Leu Val Tyr Ile Gln  
130 135 140  
Asp Pro Lys Gly Asn Arg Ile Ala Gln Trp Gln Ser Phe Gln Leu Glu  
145 150 155 160  
Gly Gly Leu Lys Gln Phe Ser Phe Pro Leu Ser Ser Glu Pro Phe Gln  
165 170 175  
Gly Ser Tyr Lys Val Val Val Gln Lys Lys Ser Gly Gly Arg Thr Glu  
180 185 190  
His Pro Phe Thr Val Glu Glu Phe Val Leu Pro Lys Phe Glu Val Gln  
195 200 205  
Val Thr Val Pro Lys Ile Ile Thr Ile Leu Glu Glu Glu Met Asn Val  
210 215 220  
Ser Val Cys Gly Leu Tyr Thr Tyr Gly Lys Pro Val Pro Gly His Val  
225 230 235 240  
Thr Val Ser Ile Cys Arg Lys Tyr Ser Asp Ala Ser Asp Cys His Gly

245										250										255																																			
Glu	Asp	Ser	Gln	Ala	Phe	Cys	Glu	Lys	Phe	Ser	Gly	Gln	Leu	Asn	Ser																																								
			260					265						270																																									
His	Gly	Cys	Phe	Tyr	Gln	Gln	Val	Lys	Thr	Lys	Val	Phe	Gln	Leu	Lys																																								
		275					280						285																																										
Arg	Lys	Glu	Tyr	Glu	Met	Lys	Leu	His	Thr	Glu	Ala	Gln	Ile	Gln	Glu																																								
		290				295					300																																												
Glu	Gly	Thr	Val	Val	Glu	Leu	Thr	Gly	Arg	Gln	Ser	Ser	Glu	Ile	Thr																																								
		305			310				315																																														
Arg	Thr	Ile	Thr	Lys	Leu	Ser	Phe	Val	Lys	Val	Asp	Ser	His	Phe	Arg																																								
			325					330						335																																									
Gln	Gly	Ile	Pro	Phe	Phe	Gly	Gln	Val	Arg	Leu	Val	Asp	Gly	Lys	Gly																																								
		340					345						350																																										
Val	Pro	Ile	Pro	Asn	Lys	Val	Ile	Phe	Ile	Arg	Gly	Asn	Glu	Ala	Asn																																								
		355				360						365																																											
Tyr	Tyr	Ser	Asn	Ala	Thr	Thr	Asp	Glu	His	Gly	Leu	Val	Gln	Phe	Ser																																								
		370				375					380																																												
Ile	Asn	Thr	Thr	Asn	Val	Met	Gly	Thr	Ser	Leu	Thr	Val	Arg	Val	Asn																																								
		385			390			395						400																																									
Tyr	Lys	Asp	Arg	Ser	Pro	Cys	Tyr	Gly	Tyr	Gln	Trp	Val	Ser	Glu	Glu																																								
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His	Glu	Glu	Ala	His	His	Thr	Ala	Tyr	Leu	Val	Phe	Ser	Pro	Ser	Lys																																								
			420				425						430																																										
Ser	Phe	Val	His	Leu	Glu	Pro	Met	Ser	His	Glu	Leu	Pro	Cys	Gly	His																																								
		435				440						445																																											
Thr	Gln	Thr	Val	Gln	Ala	His	Tyr	Ile	Leu	Asn	Gly	Gly	Thr	Leu	Leu																																								
		450				455					460																																												
Gly	Leu	Lys	Lys	Leu	Ser	Phe	Tyr	Tyr	Leu	Ile	Met	Ala	Lys	Gly	Gly																																								
		465			470			475						480																																									
Ile	Val	Arg	Thr	Gly	Thr	His	Gly	Leu	Leu	Val	Lys	Gln	Glu	Asp	Met																																								
			485				490							495																																									
Lys	Gly	His	Phe	Ser	Ile	Ser	Ile	Pro	Val	Lys	Ser	Asp	Ile	Ala	Pro																																								
		500					505						510																																										
Val	Ala	Arg	Leu	Leu	Ile	Tyr	Ala	Val	Leu	Pro	Thr	Gly	Asp	Val	Ile																																								
		515				520					525																																												
Gly	Asp	Ser	Ala	Lys	Tyr	Asp	Val	Glu	Asn	Glu	Leu	Ala	Asn	Lys	Val																																								
		530			535			540																																															
Asp	Leu	Ser	Phe	Ser	Pro	Ser	Gln	Ser	Leu	Pro	Ala	Ser	His	Ala	His																																								

545		550		555		560
Leu Arg Val Thr	Ala Ala Pro Gln Ser Val Cys Ala Leu Arg Ala Val					
	565		570		575	
Asp Gln Ser Val	Leu Leu Met Lys Pro Asp Ala Glu Leu Ser Ala Ser					
	580		585		590	
Ser Val Tyr Asn	Leu Leu Pro Glu Lys Asp Leu Thr Gly Phe Pro Gly					
	595		600		605	
Pro Leu Asn Asp	Gln Asp Asp Glu Asp Cys Ile Asn Arg His Asn Val					
	610		615		620	
Tyr Ile Asn Gly	Ile Thr Tyr Thr Pro Val Ser Ser Thr Asn Glu Lys					
	625		630		635	640
Asp Met Tyr Ser	Phe Leu Glu Asp Met Gly Leu Lys Ala Phe Thr Asn					
	645		650		655	
Ser Lys Ile Arg	Lys Pro Lys Met Cys Pro Gln Leu Gln Gln Tyr Glu					
	660		665		670	
Met His Gly Pro	Glu Gly Leu Arg Val Gly Phe Tyr Glu Ser Asp Val					
	675		680		685	
Met Gly Arg Gly	His Ala Arg Leu Val His Val Glu Glu Pro His Thr					
	690		695		700	
Glu Thr Val Arg	Lys Tyr Phe Pro Glu Thr Trp Ile Trp Asp Leu Val					
	705		710		715	720
Val Val Asn Ser	Ala Gly Val Ala Glu Val Gly Val Thr Val Pro Asp					
	725		730		735	
Thr Ile Thr Glu	Trp Lys Ala Gly Ala Phe Cys Leu Ser Glu Asp Ala					
	740		745		750	
Gly Leu Gly Ile	Ser Ser Thr Ala Ser Leu Arg Ala Phe Gln Pro Phe					
	755		760		765	
Phe Val Glu Leu	Thr Met Pro Tyr Ser Val Ile Arg Gly Glu Ala Phe					
	770		775		780	
Thr Leu Lys Ala	Thr Val Leu Asn Tyr Leu Pro Lys Cys Ile Arg Val					
	785		790		795	800
Ser Val Gln Leu	Glu Ala Ser Pro Ala Phe Leu Ala Val Pro Val Glu					
	805		810		815	
Lys Glu Gln Ala	Pro His Cys Ile Cys Ala Asn Gly Arg Gln Thr Val					
	820		825		830	
Ser Trp Ala Val	Thr Pro Lys Ser Leu Gly Asn Val Asn Phe Thr Val					
	835		840		845	
Ser Ala Glu Ala	Leu Glu Ser Gln Glu Leu Cys Gly Thr Glu Val Pro					

850	855	860
Ser Val Pro Glu His Gly Arg Lys Asp Thr Val Ile Lys Pro Leu Leu 865 870 875 880		
Val Glu Pro Glu Gly Leu Glu Lys Glu Thr Thr Phe Asn Ser Leu Leu 885 890 895		
Cys Pro Ser Gly Gly Glu Val Ser Glu Glu Leu Ser Leu Lys Leu Pro 900 905 910		
Pro Asn Val Val Glu Glu Ser Ala Arg Ala Ser Val Ser Val Leu Gly 915 920 925		
Asp Ile Leu Gly Ser Ala Met Gln Asn Thr Gln Asn Leu Leu Gln Met 930 935 940		
Pro Tyr Gly Cys Gly Glu Glx Asn Met Val Leu Phe Ala Pro Asn Ile 945 950 955 960		
Tyr Val Leu Asp Tyr Leu Asn Glu Thr Gln Gln Leu Thr Pro Glu Ile 965 970 975		
Lys Ser Lys Ala Ile Gly Tyr Leu Asn Thr Gly Tyr Gln Arg Gln Leu 980 985 990		
Asn Tyr Lys His Tyr Asp Gly Ser Tyr Ser Thr Phe Gly Glu Arg Tyr 995 1000 1005		
Gly Arg Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe Val Leu Lys Thr 1010 1015 1020		
Phe Ala Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu Ala His Ile Thr 1025 1030 1035 1040		
Gln Ala Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp Asn Gly Cys Phe 1045 1050 1055		
Arg Ser Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val Glu 1060 1065 1070		
Asp Glu Val Thr Leu Ser Ala Tyr Ile Lys Ile Ala Leu Leu Glu Ile 1075 1080 1085		
Pro Leu Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys Leu 1090 1095 1100		
Glu Ser Ala Trp Lys Thr Ala Glu Glu Gly Asp His Gly Ser His Val 1105 1110 1115 1120		
Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly Asn Gln 1125 1130 1135		
Asp Lys Arg Lys Glu Val Leu Lys Ser Leu Asn Glu Glu Ala Val Lys 1140 1145 1150		
Lys Asp Asn Ser Val His Trp Glu Arg Pro Gln Lys Pro Lys Ala Pro		

1155	1160	1165
Val Gly His Phe Tyr Glu Pro Gln Ala Pro Ser Ala Glu Val Glu Met 1170 1175 1180		
Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln Pro Ala Pro Thr 1185 1190 1195 1200		
Ser Glu Asp Leu Thr Ser Ala Thr Asn Ile Val Lys Trp Ile Thr Lys 1205 1210 1215		
Gln Gln Asn Ala Gln Gly Gly Phe Ser Ser Thr Gln Asp Lys Val Val 1220 1225 1230		
Ala Leu His Ala Leu Ser Lys Tyr Gly Ala Ala Thr Phe Thr Arg Thr 1235 1240 1245		
Gly Lys Ala Ala Gln Val Thr Ile Gln Ser Ser Gly Thr Phe Ser Ser 1250 1255 1260		
Lys Phe Gln Val Asp Asn Asn Asn Arg Leu Leu Leu Gln Gln Val Ser 1265 1270 1275 1280		
Leu Pro Glu Leu Pro Gly Glu Tyr Ser Met Lys Val Thr Gly Glu Gly 1285 1290 1295		
Cys Val Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu Lys 1300 1305 1310		
Glu Glu Phe Pro Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr Cys 1315 1320 1325		
Asp Glu Pro Lys Ala His Thr Ser Phe Gln Ile Ser Leu Ser Val Ser 1330 1335 1340		
Tyr Thr Gly Ser Arg Ser Ala Ser Asn Met Ala Ile Val Asp Val Lys 1345 1350 1355 1360		
Met Val Ser Gly Phe Ile Pro Leu Lys Pro Thr Val Lys Met Leu Glu 1365 1370 1375		
Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser Asn His Val Leu 1380 1385 1390		
Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr Leu Ser Leu Phe Phe Thr 1395 1400 1405		
Val Leu Gln Asp Val Pro Val Arg Asp Leu Lys Pro Ala Ile Val Lys 1410 1415 1420		
Val Tyr Asp Tyr Tyr Glu Thr Asp Glu Phe Ala Ile Ala Glu Tyr Asn 1425 1430 1435 1440		
Ala Pro Cys Ser Lys Asp Leu Gly Asn Ala 1445 1450		

<210> 114  
 <211> 1476  
 <212> PRT  
 <213> Mus musculus

<400> 114

Met	Trp	Lys	Ser	Arg	Arg	Ala	Gln	Leu	Cys	Leu	Phe	Ser	Val	Leu	Leu
1				5					10					15	
Ala	Phe	Leu	His	Ser	Ala	Ser	Leu	Leu	Asn	Gly	Asp	Ser	Lys	Tyr	Met
			20					25					30		
Val	Leu	Val	Pro	Ser	Gln	Leu	Tyr	Thr	Glu	Thr	Pro	Glu	Lys	Ile	Cys
		35					40					45			
Leu	His	Leu	Tyr	Gln	Leu	Asn	Glu	Thr	Val	Thr	Val	Thr	Ala	Ser	Leu
	50					55					60				
Val	Ser	Gln	Ser	Gly	Arg	Lys	Asn	Leu	Phe	Asp	Glu	Leu	Val	Leu	Asp
65					70					75					80
Lys	Asp	Leu	Phe	Gln	Cys	Val	Ser	Phe	Ile	Ile	Pro	Arg	Leu	Ser	Ser
				85					90					95	
Ser	Asp	Glu	Glu	Asp	Phe	Leu	Tyr	Val	Asp	Ile	Lys	Gly	Pro	Thr	His
			100					105					110		
Glu	Phe	Ser	Lys	Arg	Lys	Ala	Val	Leu	Val	Lys	Asn	Lys	Glu	Ser	Val
		115					120					125			
Val	Phe	Val	Gln	Thr	Asp	Lys	Pro	Val	Tyr	Lys	Pro	Gly	Gln	Ser	Val
	130					135					140				
Lys	Phe	Arg	Val	Val	Ser	Met	Asp	Lys	Met	Leu	Arg	Pro	Leu	Asn	Glu
145					150					155					160
Leu	Leu	Pro	Leu	Ala	Tyr	Ile	Glu	Asp	Pro	Lys	Lys	Asn	Arg	Ile	Met
			165						170					175	
Gln	Trp	Arg	Asp	Ile	Lys	Thr	Glu	Asn	Gly	Leu	Lys	Gln	Met	Ser	Phe
			180					185					190		
Ser	Leu	Ala	Ala	Glu	Pro	Ile	Gln	Gly	Pro	Tyr	Lys	Ile	Val	Val	His
		195					200					205			
Lys	Glu	Ser	Gly	Glu	Lys	Glu	Glu	His	Ser	Phe	Thr	Val	Met	Glu	Phe
	210					215					220				
Val	Leu	Pro	Arg	Phe	Asn	Val	Asp	Leu	Lys	Val	Pro	Asn	Ala	Met	Ser
225					230					235					240
Val	Asn	Asp	Glu	Val	Leu	Ser	Val	Thr	Ala	Cys	Gly	Lys	Tyr	Thr	Tyr
			245						250					255	
Gly	Lys	Pro	Val	Pro	Gly	His	Val	Lys	Ile	Asn	Val	Cys	Arg	Glu	Thr
			260					265					270		



Glu	Thr	Gly	Cys	Arg	Glu	Val	Asn	Ser	Gln	Leu	Asp	Asn	Asn	Gly	Cys		
		275					280					285					
Ser	Thr	Gln	Glu	Val	Asn	Ile	Thr	Glu	Leu	Gln	Ser	Lys	Lys	Arg	Asn		
	290					295					300						
Tyr	Glu	Val	Gln	Leu	Phe	His	Val	Asn	Ala	Thr	Val	Thr	Glu	Glu	Gly		
305					310					315					320		
Thr	Gly	Leu	Glu	Phe	Ser	Arg	Ser	Gly	Thr	Thr	Lys	Ile	Glu	Arg	Ile		
				325					330					335			
Thr	Asn	Lys	Leu	Ile	Phe	Leu	Lys	Ala	Asp	Ser	His	Phe	Arg	His	Gly		
			340					345					350				
Ile	Pro	Phe	Phe	Val	Lys	Val	Arg	Leu	Val	Asp	Ile	Lys	Gly	Asp	Pro		
	355						360					365					
Ile	Pro	Asn	Glu	Lys	Val	Phe	Ile	Lys	Ala	Gln	Glu	Leu	Ser	Tyr	Thr		
	370					375					380						
Ser	Ala	Thr	Thr	Thr	Asp	Gln	His	Gly	Leu	Ala	Glu	Phe	Ser	Ile	Asp		
385					390					395					400		
Thr	Thr	Cys	Ile	Ser	Gly	Ser	Ser	Leu	His	Ile	Lys	Val	Asn	His	Lys		
			405						410					415			
Glu	Glu	Asp	Ser	Cys	Ser	Tyr	Phe	Tyr	Cys	Met	Glu	Glu	Arg	His	Ala		
		420						425					430				
Ser	Ala	Lys	His	Val	Ala	Tyr	Ala	Val	Tyr	Ser	Leu	Ser	Lys	Ser	Tyr		
	435						440					445					
Ile	Tyr	Leu	Asp	Thr	Glu	Thr	Ser	Ser	Ile	Leu	Pro	Cys	Asn	Gln	Ile		
	450					455					460						
His	Thr	Val	Gln	Ala	His	Phe	Ile	Leu	Lys	Gly	Asp	Leu	Gly	Val	Leu		
465					470					475					480		
Lys	Glu	Leu	Ile	Phe	Tyr	Tyr	Leu	Val	Met	Ala	Gln	Gly	Ser	Ile	Ile		
			485						490					495			
Gln	Thr	Gly	Asn	His	Thr	His	Gln	Val	Glu	Pro	Gly	Glu	Ala	Pro	Val		
			500					505					510				
Lys	Gly	Lys	Phe	Ala	Leu	Glu	Ile	Pro	Val	Glu	Phe	Ser	Met	Val	Pro		
	515						520					525					
Met	Ala	Lys	Met	Leu	Ile	Tyr	Thr	Ile	Leu	Pro	Asp	Gly	Glu	Val	Ile		
	530					535					540						
Ala	Asp	Ser	Val	Asn	Phe	Glu	Ile	Glu	Lys	Cys	Leu	Arg	Asn	Lys	Val		
545					550					555					560		
Asp	Leu	Arg	Phe	Ser	Thr	Ser	Gln	Ser	Leu	Pro	Ala	Ser	Gln	Thr	Arg		
			565						570					575			

Leu Gln Val Thr Ala Ser Pro Gln Ser Leu Cys Gly Leu Arg Ala Val  
 580 585 590  
 Asp Gln Ser Val Leu Leu Leu Lys Pro Glu Ser Glu Leu Ser Pro Ser  
 595 600 605  
 Trp Ile Tyr Asn Leu Pro Gly Met Gln Gln Asn Lys Phe Val Pro Ser  
 610 615 620  
 Ser Arg Leu Ser Glu Asp Gln Glu Asp Cys Ile Leu Tyr Ser Ser Trp  
 625 630 635 640  
 Leu Ala Glu Lys His Thr Asn Leu Val Pro His Gly Thr Glu Lys Asp  
 645 650 655  
 Val Tyr Arg Tyr Val Glu Asp Met Gly Leu Thr Ala Phe Thr Asn Leu  
 660 665 670  
 Met Ile Lys Leu Pro Ile Ile Cys Phe Asp Tyr Gly Met Val Pro Ile  
 675 680 685  
 Ser Ala Pro Arg Val Glu Phe Asp Leu Ala Phe Thr Pro Glu Ile Ser  
 690 695 700  
 Trp Ser Leu Arg Thr Thr Leu Ser Lys Arg Pro Glu Glu Pro Pro Arg  
 705 710 715 720  
 Lys Asp Pro Ser Ser Asn Asp Pro Leu Thr Glu Thr Ile Arg Lys Tyr  
 725 730 735  
 Phe Pro Glu Thr Trp Val Trp Asp Ile Val Thr Val Asn Ser Thr Gly  
 740 745 750  
 Leu Ala Glu Val Glu Met Thr Val Pro Asp Thr Ile Thr Glu Trp Lys  
 755 760 765  
 Ala Gly Ala Leu Cys Leu Ser Asn Asp Thr Gly Leu Gly Leu Ser Ser  
 770 775 780  
 Val Val Pro Leu Gln Ala Phe Lys Pro Phe Phe Val Glu Val Ser Leu  
 785 790 795 800  
 Pro Tyr Ser Val Val Arg Gly Glu Ala Phe Met Leu Lys Ala Thr Val  
 805 810 815  
 Met Asn Tyr Leu Pro Thr Ser Met Gln Met Ser Val Gln Leu Glu Ala  
 820 825 830  
 Ser Pro Asp Phe Thr Ala Val Pro Val Gly Asp Asp Gln Asp Ser Tyr  
 835 840 845  
 Cys Leu Ser Ala Asn Gly Arg His Thr Ser Ser Trp Leu Val Thr Pro  
 850 855 860  
 Lys Ser Leu Gly Asn Val Asn Phe Ser Val Ser Ala Glu Ala Gln Gln  
 865 870 875 880

Ser Ser Glu Pro Cys Gly Ser Glu Val Ala Thr Val Pro Ala Thr Gly  
 885 890 895  
 Arg Lys Asp Thr Val Val Lys Val Leu Ile Val Glu Pro Glu Gly Ile  
 900 905 910  
 Lys Gln Glu His Thr Phe Ser Ser Leu Phe Cys Ala Ser Asp Ala Glu  
 915 920 925  
 Ile Ser Glu Lys Met Ser Ser Gly Pro Pro Pro Thr Val Val Lys Asp  
 930 935 940  
 Ser Ala Arg Ala His Phe Ser Val Met Gly Asp Ile Leu Ser Ser Ala  
 945 950 955 960  
 Ile Arg Asn Thr Gln Asn Pro Leu His Met Pro Tyr Gly Cys Gly Glu  
 965 970 975  
 Gln Asn Met Val Leu Phe Ala Pro Asn Ile Tyr Val Leu Lys Tyr Leu  
 980 985 990  
 Asn Glu Thr Gln Gln Leu Thr Gln Lys Ile Lys Thr Lys Ala Leu Gly  
 995 1000 1005  
 Phe Leu Arg Ala Gly Tyr Gln Arg Glu Leu Asn Tyr Lys His Lys Asp  
 1010 1015 1020  
 Gly Ser Tyr Ser Ala Phe Gly Asp Gln Asn Gly Glu Arg Glu Gly Asn  
 1025 1030 1035 1040  
 Thr Trp Leu Thr Ala Phe Val Leu Lys Ser Phe Ala Gln Ala Arg Ala  
 1045 1050 1055  
 Phe Ile Phe Ile Asp Glu Ser His Ile Thr His Ala Phe Thr Trp Leu  
 1060 1065 1070  
 Ser Gln Lys Gln Lys Asp Asn Gly Cys Phe Arg Ser Ser Gly Ser Leu  
 1075 1080 1085  
 Phe Asn Asn Ala Met Lys Gly Gly Val Asp Asp Glu Met Thr Leu Ser  
 1090 1095 1100  
 Ala Tyr Ile Thr Met Ala Leu Leu Glu Ser Ser Leu Pro Ala Thr His  
 1105 1110 1115 1120  
 Pro Val Val Ser Lys Ala Leu Ser Cys Leu Glu Ser Ser Trp Lys Thr  
 1125 1130 1135  
 Ile Glu Gln Glu Arg Asn Ala Ser Phe Val Tyr Thr Lys Ala Leu Met  
 1140 1145 1150  
 Ala Tyr Ala Phe Ala Leu Ala Gly Asn Gln Asn Lys Arg Asp Glu Ile  
 1155 1160 1165  
 Leu Lys Ser Leu Asp Glu Glu Ala Ile Lys Glu Asn Asn Ser Ile His  
 1170 1175 1180

Trp Lys Arg Pro Gln Lys Ser Arg Lys Ser Glu His His Leu Tyr Lys  
 1185 1190 1195 1200  
 Pro Gln Ala Ser Ser Ala Glu Val Glu Met Asn Ala Tyr Val Val Leu  
 1205 1210 1215  
 Ala Arg Leu Thr Ala Gln Pro Ala Pro Ser Pro Glu Asp Leu Thr Leu  
 1220 1225 1230  
 Ser Met Ser Thr Ile Met Trp Leu Thr Lys Gln Gln Asn Ser Asn Gly  
 1235 1240 1245  
 Gly Phe Ser Ser Thr Gln Asp Thr Val Val Ala Leu Asp Ala Leu Ser  
 1250 1255 1260  
 Lys Tyr Gly Ala Val Thr Phe Ser Arg Ser Gln Lys Thr Thr Leu Val  
 1265 1270 1275 1280  
 Thr Ile Gln Ser Thr Gly Ser Phe Ser Gln Lys Phe Gln Val Glu Asn  
 1285 1290 1295  
 Ser Asn Arg Leu Leu Leu Gln Gln Val Ala Leu Pro Asp Ile Pro Gly  
 1300 1305 1310  
 Asp Tyr Thr Ile Ser Val Ser Gly Glu Gly Cys Val Tyr Ala Gln Thr  
 1315 1320 1325  
 Met Leu Arg Tyr Asn Met His Leu Glu Lys Gln Leu Ser Ala Phe Ala  
 1330 1335 1340  
 Ile Trp Val Gln Thr Val Pro Leu Thr Cys Asn Asn Pro Lys Gly His  
 1345 1350 1355 1360  
 Asn Ser Phe Gln Ile Ser Leu Glu Ile Ser Tyr Thr Gly Ser Arg Pro  
 1365 1370 1375  
 Ala Ser Asn Met Val Ile Ala Asp Val Lys Met Leu Ser Gly Phe Ile  
 1380 1385 1390  
 Pro Leu Lys Pro Thr Val Lys Lys Leu Glu Arg Leu Glu His Val Ser  
 1395 1400 1405  
 Arg Thr Glu Val Ser Asn Asn Asn Val Leu Ile Tyr Leu Asp Gln Val  
 1410 1415 1420  
 Thr Asn Gln Thr Leu Ala Phe Ser Phe Ile Ile Gln Gln Asp Ile Pro  
 1425 1430 1435 1440  
 Val Arg Asn Leu Gln Pro Ala Ile Val Lys Val Tyr Asp Tyr Tyr Glu  
 1445 1450 1455  
 Thr Asp Glu Met Ala Phe Ala Glu Tyr Ser Ser Pro Cys Ser Thr Asp  
 1460 1465 1470  
 Lys Gln Asn Val  
 1475

<210> 115  
 <211> 751  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Alpha 2  
 macroglobulin Consensus Sequence

<400> 115

Ile	Asp	Glu	Asp	Asp	Ile	Thr	Ile	Arg	Ser	Tyr	Phe	Pro	Glu	Ser	Trp	1	5	10	15
Leu	Trp	Glu	Val	Glu	Glu	Val	Asp	Arg	Ser	Pro	Val	Leu	Thr	Val	Asn	20	25	30	
Ile	Thr	Leu	Pro	Asp	Ser	Ile	Thr	Thr	Trp	Glu	Ile	Leu	Ala	Val	Ser	35	40	45	
Leu	Ser	Asn	Thr	Lys	Gly	Leu	Cys	Val	Ala	Asp	Pro	Val	Glu	Leu	Thr	50	55	60	
Val	Phe	Gln	Asp	Phe	Phe	Leu	Glu	Leu	Arg	Leu	Pro	Tyr	Ser	Val	Val	65	70	75	80
Arg	Gly	Glu	Gln	Val	Glu	Leu	Arg	Ala	Val	Leu	Tyr	Asn	Tyr	Leu	Pro	85	90	95	
Ser	Gln	Asp	Ile	Lys	Val	Val	Val	Gln	Leu	Glu	Val	Glu	Pro	Leu	Cys	100	105	110	
Gln	Ala	Gly	Phe	Cys	Ser	Leu	Ala	Thr	Gln	Arg	Thr	Arg	Ser	Ser	Gln	115	120	125	
Ser	Val	Arg	Pro	Lys	Ser	Leu	Ser	Ser	Val	Ser	Phe	Pro	Val	Val	Val	130	135	140	
Val	Pro	Leu	Ala	Ser	Gly	Leu	Ser	Leu	Val	Glu	Val	Val	Ala	Ser	Val	145	150	155	160
Pro	Glu	Phe	Phe	Val	Lys	Asp	Ala	Val	Val	Lys	Thr	Leu	Lys	Val	Glu	165	170	175	
Pro	Glu	Gly	Ala	Arg	Lys	Glu	Glu	Thr	Val	Ser	Ser	Leu	Leu	Leu	Pro	180	185	190	
Pro	Glu	His	Leu	Gly	Gly	Gly	Leu	Glu	Val	Ser	Glu	Val	Pro	Ala	Leu	195	200	205	
Lys	Leu	Pro	Asp	Asp	Val	Pro	Asp	Thr	Glu	Ala	Glu	Ala	Val	Ile	Ser	210	215	220	
Val	Gln	Gly	Asp	Pro	Val	Ala	Gln	Ala	Ile	Gln	Asn	Thr	Leu	Ser	Gly	225	230	235	240
Glu	Gly	Leu	Asn	Asn	Leu	Leu	Arg	Leu	Pro	Ser	Gly	Cys	Gly	Glu	Gln				

245										250					255				
Asn	Met	Ile	Tyr	Met	Ala	Pro	Thr	Val	Tyr	Val	Leu	His	Tyr	Leu	Asp				
			260					265					270						
Glu	Thr	Trp	Gln	Trp	Glu	Lys	Pro	Gly	Thr	Lys	Lys	Lys	Gln	Lys	Ala				
		275					280					285							
Ile	Asp	Leu	Ile	Asn	Lys	Gly	Tyr	Gln	Arg	Gln	Leu	Asn	Tyr	Arg	Lys				
	290					295					300								
Ala	Asp	Gly	Ser	Tyr	Ala	Ala	Phe	Leu	His	Arg	Ala	Ser	Ser	Thr	Trp				
305					310					315					320				
Leu	Thr	Ala	Phe	Val	Leu	Lys	Val	Phe	Ser	Gln	Ala	Arg	Asn	Tyr	Val				
				325					330					335					
Phe	Ile	Asp	Glu	Glu	His	Ile	Cys	Gly	Ala	Val	Lys	Trp	Leu	Ile	Leu				
			340					345					350						
Asn	Gln	Gln	Lys	Asp	Asp	Gly	Val	Phe	Arg	Glu	Ser	Gly	Pro	Val	Ile				
		355					360					365							
His	Asn	Glu	Met	Lys	Gly	Gly	Val	Gly	Asp	Asp	Ala	Glu	Val	Glu	Val				
	370					375					380								
Thr	Leu	Thr	Ala	Phe	Ile	Thr	Ile	Ala	Leu	Leu	Glu	Ala	Lys	Leu	Val				
385					390					395					400				
Cys	Ile	Ser	Pro	Val	Val	Ala	Asn	Ala	Leu	Ser	Ile	Leu	Lys	Ala	Ser				
				405					410					415					
Asp	Tyr	Leu	Leu	Glu	Asn	Tyr	Ala	Asn	Gly	Gln	Arg	Val	Tyr	Thr	Leu				
			420					425					430						
Ala	Leu	Thr	Ala	Tyr	Ala	Leu	Ala	Leu	Ala	Gly	Val	Leu	His	Lys	Leu				
		435					440					445							
Lys	Glu	Ile	Leu	Lys	Ser	Leu	Lys	Glu	Glu	Leu	Tyr	Lys	Ala	Leu	Val				
	450					455					460								
Lys	Gly	His	Trp	Glu	Arg	Pro	Gln	Lys	Pro	Lys	Asp	Ala	Pro	Gly	His				
465					470					475				480					
Pro	Tyr	Ser	Pro	Gln	Pro	Gln	Ala	Ala	Ala	Val	Glu	Met	Thr	Ser	Tyr				
				485					490					495					
Ala	Leu	Leu	Ala	Leu	Leu	Thr	Leu	Leu	Pro	Phe	Pro	Lys	Val	Glu	Met				
			500					505					510						
Ala	Pro	Lys	Val	Val	Lys	Trp	Leu	Thr	Glu	Gln	Gln	Tyr	Tyr	Gly	Gly				
		515					520					525							
Gly	Phe	Gly	Ser	Thr	Gln	Asp	Thr	Val	Met	Ala	Leu	Gln	Ala	Leu	Ser				
	530					535					540								
Lys	Tyr	Gly	Ile	Ala	Thr	Pro	Thr	His	Lys	Glu	Lys	Asn	Leu	Ser	Val				

545		550		555		560									
Thr	Ile	Gln	Ser	Pro	Ser	Gly	Ser	Phe	Lys	Ser	His	Phe	Gln	Ile	Leu
				565					570					575	
Asn	Asn	Asn	Ala	Phe	Leu	Leu	Arg	Pro	Val	Glu	Leu	Pro	Leu	Asn	Glu
			580					585					590		
Gly	Phe	Thr	Val	Thr	Ala	Lys	Val	Thr	Gly	Gln	Gly	Thr	Leu	Thr	Leu
		595					600					605			
Val	Thr	Thr	Tyr	Arg	Tyr	Lys	Val	Leu	Asp	Lys	Lys	Asn	Thr	Phe	Cys
	610					615					620				
Phe	Asp	Leu	Lys	Ile	Glu	Thr	Val	Pro	Asp	Thr	Cys	Val	Glu	Pro	Lys
625					630					635					640
Gly	Ala	Lys	Asn	Ser	Asp	Tyr	Leu	Ser	Ile	Cys	Thr	Arg	Tyr	Ala	Gly
			645						650					655	
Ser	Arg	Ser	Asp	Ser	Gly	Met	Ala	Ile	Ala	Asp	Ile	Ser	Met	Leu	Thr
			660					665					670		
Gly	Phe	Ile	Pro	Leu	Lys	Pro	Asp	Leu	Lys	Lys	Leu	Glu	Asn	Gly	Val
	675						680					685			
Asp	Arg	Tyr	Val	Ser	Lys	Tyr	Glu	Ile	Asp	Gly	Asn	His	Val	Leu	Leu
	690					695					700				
Tyr	Leu	Asp	Lys	Val	Ser	His	Ser	Glu	Thr	Glu	Cys	Val	Gly	Phe	Lys
705					710					715					720
Ile	His	Gln	Asp	Phe	Glu	Val	Gly	Leu	Leu	Gln	Pro	Ala	Ser	Val	Lys
			725					730						735	
Val	Tyr	Asp	Tyr	Tyr	Glu	Pro	Asp	Glu	Gln	Cys	Thr	Ala	Phe	Tyr	
		740						745					750		

<210> 116

<211> 620

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Alpha 2  
macroglobulin Consensus Sequence

<400> 116

Arg	Leu	Leu	Trp	Leu	Leu	Leu	Leu	Leu	Leu	Phe	Phe	Asp	Ser	Ser
1				5				10					15	

Leu	Gln	Lys	Pro	Arg	Tyr	Met	Val	Ile	Val	Pro	Ser	Ile	Leu	Arg	Thr
			20					25					30		

Glu	Thr	Pro	Glu	Lys	Val	Cys	Val	Gln	Leu	His	Asp	Leu	Asn	Glu	Thr
		35					40					45			

Val	Thr	Val	Thr	Val	Ser	Leu	His	Ser	Phe	Pro	Gly	Lys	Arg	Asn	Leu	50	55	60
Ser	Ser	Leu	Phe	Thr	Val	Leu	Leu	Ser	Ser	Lys	Asp	Leu	Phe	His	Cys	65	70	75
Val	Ser	Phe	Thr	Val	Pro	Gln	Pro	Gly	Leu	Phe	Lys	Ser	Ser	Lys	Gly	85	90	95
Glu	Glu	Ser	Phe	Val	Val	Val	Gln	Val	Lys	Gly	Pro	Thr	His	Thr	Phe	100	105	110
Lys	Glu	Lys	Val	Thr	Val	Leu	Val	Ser	Ser	Arg	Arg	Gly	Leu	Val	Phe	115	120	125
Ile	Gln	Thr	Asp	Lys	Pro	Ile	Tyr	Thr	Pro	Gly	Gln	Thr	Val	Arg	Tyr	130	135	140
Arg	Val	Phe	Ser	Val	Asp	Glu	Asn	Leu	Arg	Pro	Leu	Asn	Glu	Leu	Ile	145	150	155
Leu	Val	Tyr	Ile	Glu	Asp	Pro	Glu	Gly	Asn	Arg	Val	Asp	Gln	Trp	Glu	165	170	175
Val	Asn	Lys	Leu	Glu	Gly	Gly	Ile	Phe	Gln	Leu	Ser	Phe	Pro	Ile	Pro	180	185	190
Ser	Glu	Pro	Ile	Gln	Gly	Thr	Trp	Lys	Ile	Val	Ala	Arg	Tyr	Glu	Ser	195	200	205
Gly	Pro	Glu	Ser	Asn	Tyr	Thr	His	Tyr	Phe	Glu	Val	Lys	Glu	Tyr	Val	210	215	220
Leu	Pro	Ser	Phe	Glu	Val	Ser	Ile	Thr	Pro	Pro	Lys	Pro	Phe	Ile	Tyr	225	230	235
Tyr	Asp	Asn	Phe	Lys	Glu	Phe	Glu	Val	Thr	Ile	Cys	Ala	Arg	Tyr	Thr	245	250	255
Tyr	Gly	Lys	Pro	Val	Pro	Gly	Val	Ala	Tyr	Val	Arg	Phe	Gly	Val	Lys	260	265	270
Asp	Glu	Asp	Gly	Lys	Lys	Glu	Leu	Leu	Ala	Gly	Leu	Glu	Glu	Arg	Ala	275	280	285
Lys	Leu	Leu	Asp	Gly	Asn	Gly	Glu	Ile	Cys	Leu	Ser	Gln	Glu	Val	Leu	290	295	300
Leu	Lys	Glu	Leu	Gln	Leu	Lys	Asn	Glu	Asp	Leu	Glu	Gly	Lys	Ser	Leu	305	310	315
Tyr	Val	Ala	Val	Ala	Val	Ile	Glu	Ser	Glu	Gly	Gly	Asp	Met	Glu	Glu	325	330	335
Ala	Glu	Leu	Gly	Gly	Ile	Lys	Ile	Val	Arg	Ser	Pro	Tyr	Lys	Leu	Lys	340	345	350



Phe Val Lys Thr Pro Ser His Phe Lys Pro Gly Ile Pro Phe Phe Leu  
355 360 365  
Lys Val Leu Val Val Asp Pro Asp Gly Ser Pro Ala Pro Asn Val Pro  
370 375 380  
Val Lys Val Ser Ala Gln Asp Ala Ser Tyr Tyr Ser Asn Gly Thr Thr  
385 390 395 400  
Asp Glu Asp Gly Leu Ala Gln Phe Ser Ile Asn Thr Ser Gly Ile Ser  
405 410 415  
Ser Leu Ser Ile Thr Val Arg Thr Asn His Lys Glu Leu Pro Glu Glu  
420 425 430  
Val Gln Ala His Ala Glu Ala Gln Ala Thr Ala Tyr Ser Thr Val Ser  
435 440 445  
Leu Ser Lys Ser Tyr Ile His Leu Ser Ile Glu Arg Thr Leu Pro Cys  
450 455 460  
Gly Pro Gly Val Gly Glu Gln Ala Asn Phe Ile Leu Arg Gly Lys Ser  
465 470 475 480  
Leu Gly Glu Leu Lys Ile Leu His Phe Tyr Tyr Leu Ile Met Ser Lys  
485 490 495  
Gly Lys Ile Val Lys Thr Gly Arg Glu Pro Arg Glu Pro Gly Gln Gly  
500 505 510  
Leu Phe Ser Leu Ser Ile Pro Val Thr Pro Asp Leu Ala Pro Ser Phe  
515 520 525  
Arg Leu Val Ala Tyr Tyr Ile Leu Pro Gln Gly Glu Val Val Ala Asp  
530 535 540  
Ser Val Trp Ile Asp Val Glu Asp Cys Cys Ala Asn Lys Leu Asp Leu  
545 550 555 560  
Ser Phe Ser Pro Ser Lys Asp Tyr Arg Leu Pro Ala Gln Gln Val Lys  
565 570 575  
Leu Arg Val Glu Ala Asp Pro Gln Ser Leu Val Ala Leu Arg Ala Val  
580 585 590  
Asp Gln Ala Val Tyr Leu Leu Lys Pro Lys Ala Lys Leu Ser Met Ser  
595 600 605  
Lys Val Tyr Asp Leu Leu Glu Lys Ser Asp Leu Gly  
610 615 620

<210> 117  
<211> 931  
<212> PRT  
<213> Caenorhabditis elegans

<400> 117

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Gly	Tyr	Leu	Leu	Gln	Met	Leu	Val	Leu	Pro	Ala	Leu	Ala	Leu	Leu	Ser		
		20						25					30				
Ala	Ser	Gly	Thr	Gly	Ser	Ala	Ala	Gln	Asp	Asp	Glu	Phe	Phe	His	Glu		
		35					40					45					
Leu	Pro	Glu	Thr	Phe	Pro	Ser	Asp	Pro	Pro	Glu	Pro	Leu	Pro	His	Phe		
	50					55					60						
Leu	Ile	Glu	Pro	Glu	Glu	Ala	Tyr	Ile	Val	Lys	Asn	Lys	Pro	Val	Asn		
65					70					75					80		
Leu	Tyr	Cys	Lys	Ala	Ser	Pro	Ala	Thr	Gln	Ile	Tyr	Phe	Lys	Cys	Asn		
				85					90					95			
Ser	Glu	Trp	Val	His	Gln	Lys	Asp	His	Val	Val	Asp	Glu	Arg	Val	Asp		
			100					105					110				
Glu	Thr	Ser	Gly	Leu	Ile	Val	Arg	Glu	Val	Ser	Ile	Glu	Ile	Ser	Arg		
		115					120					125					
Gln	Gln	Val	Glu	Glu	Leu	Phe	Gly	Pro	Glu	Asp	Tyr	Trp	Cys	Gln	Cys		
		130				135					140						
Val	Ala	Trp	Ser	Ser	Ala	Gly	Thr	Thr	Lys	Ser	Arg	Lys	Ala	Tyr	Val		
145					150					155					160		
Arg	Ile	Ala	Tyr	Leu	Arg	Lys	Thr	Phe	Glu	Gln	Glu	Pro	Leu	Gly	Lys		
				165					170					175			
Glu	Val	Ser	Leu	Glu	Gln	Glu	Val	Leu	Leu	Gln	Cys	Arg	Pro	Pro	Glu		
			180					185					190				
Gly	Ile	Pro	Val	Ala	Glu	Val	Glu	Trp	Leu	Lys	Asn	Glu	Asp	Ile	Ile		
		195					200					205					
Asp	Pro	Ala	Glu	Asp	Arg	Asn	Phe	Tyr	Ile	Thr	Ile	Asp	His	Asn	Leu		
		210				215					220						
Ile	Ile	Lys	Gln	Ala	Arg	Leu	Ser	Asp	Thr	Ala	Asn	Tyr	Thr	Cys	Val		
225					230					235					240		
Ala	Lys	Asn	Ile	Val	Ala	Lys	Arg	Lys	Ser	Thr	Thr	Ala	Thr	Val	Ile		
				245					250					255			
Val	Tyr	Val	Asn	Gly	Gly	Trp	Ser	Thr	Trp	Thr	Glu	Trp	Ser	Val	Cys		
			260					265					270				
Asn	Ser	Arg	Cys	Gly	Arg	Gly	Tyr	Gln	Lys	Arg	Thr	Arg	Thr	Cys	Thr		
		275					280					285					
Asn	Pro	Ala	Pro	Leu	Asn	Gly	Gly	Ala	Phe	Cys	Glu	Gly	Gln	Ser	Val		

290		295		300
Gln Lys Ile Ala Cys Thr Thr Leu Cys Pro Val Asp Gly Arg Trp Thr				
305		310		315 320
Ser Trp Ser Lys Trp Ser Thr Cys Gly Thr Glu Cys Thr His Trp Arg				
	325		330	335
Arg Arg Glu Cys Thr Ala Pro Ala Pro Lys Asn Gly Gly Lys Asp Cys				
	340		345	350
Asp Gly Leu Val Leu Gln Ser Lys Asn Cys Thr Asp Gly Leu Cys Met				
	355		360	365
Gln Ala Ala Pro Asp Ser Asp Asp Val Ala Leu Tyr Val Gly Ile Val				
	370		375	380
Ile Ala Val Thr Val Cys Leu Ala Ile Thr Val Val Val Ala Leu Phe				
385		390		395 400
Val Tyr Arg Lys Asn His Arg Asp Phe Glu Ser Asp Ile Ile Asp Ser				
	405		410	415
Ser Ala Leu Asn Gly Gly Phe Gln Pro Val Asn Ile Lys Ala Ala Arg				
	420		425	430
Gln Asp Leu Leu Ala Val Pro Pro Asp Leu Thr Ser Ala Ala Ala Met				
	435		440	445
Tyr Arg Gly Pro Val Tyr Ala Leu His Asp Val Ser Asp Lys Ile Pro				
	450		455	460
Met Thr Asn Ser Pro Ile Leu Asp Pro Leu Pro Asn Leu Lys Ile Lys				
465		470		475 480
Val Tyr Asn Ser Ser Gly Ala Val Thr Pro Gln Asp Asp Leu Ala Glu				
	485		490	495
Phe Ser Ser Lys Leu Ser Pro Gln Met Thr Gln Ser Leu Leu Glu Asn				
	500		505	510
Glu Ala Leu Asn Leu Lys Asn Gln Ser Leu Ala Arg Gln Thr Asp Pro				
	515		520	525
Ser Cys Thr Ala Phe Gly Thr Phe Asn Ser Leu Gly Gly His Leu Ile				
	530		535	540
Ile Pro Asn Ser Gly Val Ser Leu Leu Ile Pro Ala Gly Ala Ile Pro				
545		550		555 560
Gln Gly Arg Val Tyr Glu Met Tyr Val Thr Val His Arg Lys Glu Asn				
	565		570	575
Met Arg Pro Pro Met Glu Asp Ser Gln Thr Leu Leu Thr Pro Val Val				
	580		585	590
Ser Cys Gly Pro Pro Gly Ala Leu Leu Thr Arg Pro Val Ile Leu Thr				

595					600					605					
Leu	His	His	Cys	Ala	Asp	Pro	Ser	Thr	Glu	Asp	Trp	Lys	Ile	Gln	Leu
610						615					620				
Lys	Asn	Gln	Ala	Val	Gln	Gly	Gln	Trp	Glu	Asp	Val	Val	Val	Val	Gly
625					630					635					640
Glu	Glu	Asn	Phe	Thr	Thr	Pro	Cys	Tyr	Ile	Gln	Leu	Asp	Ala	Glu	Ala
				645					650					655	
Cys	His	Ile	Leu	Thr	Glu	Asn	Leu	Ser	Thr	Tyr	Ala	Leu	Val	Gly	Gln
			660					665					670		
Ser	Thr	Thr	Lys	Ala	Ala	Ala	Lys	Arg	Leu	Lys	Leu	Ala	Ile	Phe	Gly
		675					680					685			
Pro	Leu	Cys	Cys	Ser	Ser	Leu	Glu	Tyr	Ser	Ile	Arg	Val	Tyr	Cys	Leu
690						695					700				
Asp	Asp	Thr	Gln	Asp	Ala	Leu	Lys	Glu	Val	Leu	Gln	Leu	Glu	Arg	Gln
705					710					715					720
Met	Gly	Gly	Gln	Leu	Leu	Glu	Glu	Pro	Lys	Ala	Leu	His	Phe	Lys	Gly
			725					730						735	
Ser	Ile	His	Asn	Leu	Arg	Leu	Ser	Ile	His	Asp	Ile	Ala	His	Ser	Leu
			740					745					750		
Trp	Lys	Ser	Lys	Leu	Leu	Ala	Lys	Tyr	Gln	Glu	Ile	Pro	Phe	Tyr	His
		755					760					765			
Ile	Trp	Ser	Gly	Ser	Gln	Arg	Asn	Leu	His	Cys	Thr	Phe	Thr	Leu	Glu
770					775						780				
Arg	Leu	Ser	Leu	Asn	Thr	Val	Glu	Leu	Val	Cys	Lys	Leu	Cys	Val	Arg
785					790					795					800
Gln	Val	Glu	Gly	Glu	Gly	Gln	Ile	Phe	Gln	Leu	Asn	Cys	Thr	Val	Ser
			805						810					815	
Glu	Glu	Pro	Thr	Gly	Ile	Asp	Leu	Pro	Leu	Leu	Asp	Pro	Ala	Ser	Thr
			820					825					830		
Ile	Thr	Thr	Val	Thr	Gly	Pro	Ser	Ala	Phe	Ser	Ile	Pro	Leu	Pro	Ile
		835					840					845			
Arg	Gln	Lys	Leu	Cys	Ser	Ser	Leu	Asp	Ala	Pro	Gln	Thr	Arg	Gly	His
		850				855					860				
Asp	Trp	Arg	Met	Leu	Ala	His	Lys	Leu	Asn	Leu	Asp	Arg	Tyr	Leu	Asn
865					870					875					880
Tyr	Phe	Ala	Thr	Lys	Ser	Ser	Pro	Thr	Gly	Val	Ile	Leu	Asp	Leu	Trp
			885						890					895	
Glu	Ala	Gln	Asn	Phe	Pro	Asp	Gly	Asn	Leu	Ser	Met	Leu	Ala	Ala	Val

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Leu Glu Glu Met Gly Arg His Glu Thr Val Val Ser Leu Ala Ala Glu		
915	920	925
Gly Gln Tyr		
930		
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Gly Tyr Leu Leu Gln Met Leu Val Leu Pro Ala Leu Ala Leu Leu Ser		
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Ala Ser Gly Thr Gly Ser Ala Ala Gln Asp Asp Asp Phe Phe His Glu		
35	40	45
Leu Pro Glu Thr Phe Pro Ser Asp Pro Pro Glu Pro Leu Pro His Phe		
50	55	60
Leu Ile Glu Pro Glu Glu Ala Tyr Ile Val Lys Asn Lys Pro Val Asn		
65	70	75 80
Leu Tyr Cys Lys Ala Ser Pro Ala Thr Gln Ile Tyr Phe Lys Cys Asn		
85	90	95
Ser Glu Trp Val His Gln Lys Asp His Ile Val Asp Glu Arg Val Asp		
100	105	110
Glu Thr Ser Gly Leu Ile Val Arg Glu Val Ser Ile Glu Ile Ser Arg		
115	120	125
Gln Gln Val Glu Glu Leu Phe Gly Pro Glu Asp Tyr Trp Cys Gln Cys		
130	135	140
Val Ala Trp Ser Ser Ala Gly Thr Thr Lys Ser Arg Lys Ala Tyr Val		
145	150	155 160
Arg Ile Ala Tyr Leu Arg Lys Thr Phe Glu Gln Glu Pro Leu Gly Lys		
165	170	175
Glu Val Ser Leu Glu Gln Glu Val Leu Leu Gln Cys Arg Pro Pro Glu		
180	185	190
Gly Ile Pro Val Ala Glu Val Glu Trp Leu Lys Asn Glu Asp Ile Ile		
195	200	205
Asp Pro Val Glu Asp Arg Asn Phe Tyr Ile Thr Ile Asp His Asn Leu		
210	215	220

Ile Ile Lys Gln Ala Arg Leu Ser Asp Thr Ala Asn Tyr Thr Cys Val  
 225 230 235 240  
 Ala Lys Asn Ile Val Ala Lys Arg Lys Ser Thr Thr Ala Thr Val Ile  
 245 250 255  
 Val Tyr Val Asn Gly Gly Trp Ser Thr Trp Thr Glu Trp Ser Val Cys  
 260 265 270  
 Asn Ser Arg Cys Gly Arg Gly Tyr Gln Lys Arg Thr Arg Thr Cys Thr  
 275 280 285  
 Asn Pro Ala Pro Leu Asn Gly Gly Ala Phe Cys Glu Gly Gln Ser Val  
 290 295 300  
 Gln Lys Ile Ala Cys Thr Thr Leu Cys Pro Val Asp Gly Arg Trp Thr  
 305 310 315 320  
 Pro Trp Ser Lys Trp Ser Thr Cys Gly Thr Glu Cys Thr His Trp Arg  
 325 330 335  
 Arg Arg Glu Cys Thr Ala Pro Ala Pro Lys Asn Gly Gly Lys Asp Cys  
 340 345 350  
 Asp Gly Leu Val Leu Gln Ser Lys Asn Cys Thr Asp Gly Leu Cys Met  
 355 360 365  
 Gln Thr Ala Pro Asp Ser Asp Asp Val Ala Leu Tyr Val Gly Ile Val  
 370 375 380  
 Ile Ala Val Ile Val Cys Leu Ala Ile Ser Val Val Val Ala Leu Phe  
 385 390 395 400  
 Val Tyr Arg Lys Asn His Arg Asp Phe Glu Ser Asp Ile Ile Asp Ser  
 405 410 415  
 Ser Ala Leu Asn Gly Gly Phe Gln Pro Val Asn Ile Lys Ala Ala Arg  
 420 425 430  
 Gln Asp Leu Leu Ala Val Pro Pro Asp Leu Thr Ser Ala Ala Ala Met  
 435 440 445  
 Tyr Arg Gly Pro Val Tyr Ala Leu His Asp Val Ser Asp Lys Ile Pro  
 450 455 460  
 Met Thr Asn Ser Pro Ile Leu Asp Pro Leu Pro Asn Leu Lys Ile Lys  
 465 470 475 480  
 Val Tyr Asn Thr Ser Gly Ala Val Ser Pro Gln Asp Asp Leu Ser Glu  
 485 490 495  
 Phe Thr Ser Lys Leu Ser Pro Gln Met Thr Gln Ser Leu Leu Glu Asn  
 500 505 510  
 Glu Ala Leu Ser Leu Lys Asn Gln Ser Leu Ala Arg Gln Thr Asp Pro  
 515 520 525

Ser Cys Thr Ala Phe Gly Ser Phe Asn Ser Leu Gly Gly His Leu Ile  
 530 535 540  
 Val Pro Asn Ser Gly Val Ser Leu Leu Ile Pro Ala Gly Ala Ile Pro  
 545 550 555 560  
 Gln Gly Arg Val Tyr Glu Met Tyr Val Thr Val His Arg Lys Glu Thr  
 565 570 575  
 Met Arg Pro Pro Met Asp Asp Ser Gln Thr Leu Leu Thr Pro Val Val  
 580 585 590  
 Ser Cys Gly Pro Pro Gly Ala Leu Leu Thr Arg Pro Val Val Leu Thr  
 595 600 605  
 Met His His Cys Ala Asp Pro Asn Thr Glu Asp Trp Lys Ile Leu Leu  
 610 615 620  
 Lys Asn Gln Ala Ala Gln Gly Gln Trp Glu Asp Val Val Val Val Gly  
 625 630 635 640  
 Glu Glu Asn Phe Thr Thr Pro Cys Tyr Ile Lys Leu Asp Ala Glu Ala  
 645 650 655  
 Cys His Ile Leu Thr Glu Asn Leu Ser Thr Tyr Ala Leu Val Gly His  
 660 665 670  
 Ser Thr Thr Lys Ala Ala Ala Lys Arg Leu Lys Leu Ala Ile Phe Gly  
 675 680 685  
 Pro Leu Cys Cys Ser Ser Leu Glu Tyr Ser Ile Arg Val Tyr Cys Leu  
 690 695 700  
 Asp Asp Thr Gln Asp Ala Leu Lys Glu Ile Leu His Leu Glu Arg Gln  
 705 710 715 720  
 Thr Gly Gly Gln Leu Leu Glu Glu Pro Lys Ala Leu His Phe Lys Gly  
 725 730 735  
 Ser Thr His Asn Leu Arg Leu Ser Ile His Asp Ile Ala His Ser Leu  
 740 745 750  
 Trp Lys Ser Lys Leu Leu Ala Lys Tyr Gln Glu Ile Pro Phe Tyr His  
 755 760 765  
 Val Trp Ser Gly Ser Gln Arg Asn Leu His Cys Thr Phe Thr Leu Glu  
 770 775 780  
 Arg Phe Ser Leu Asn Thr Val Glu Leu Val Cys Lys Leu Cys Val Arg  
 785 790 795 800  
 Gln Val Glu Gly Glu Gly Gln Ile Phe Gln Leu Asn Cys Thr Val Ser  
 805 810 815  
 Glu Glu Pro Thr Gly Ile Asp Leu Pro Leu Leu Asp Pro Ala Asn Thr  
 820 825 830

Ile Thr Thr Val Thr Gly Pro Ser Ala Phe Ser Ile Pro Leu Pro Ile  
 835 840 845  
 Arg Gln Lys Leu Cys Ser Ser Leu Asp Ala Pro Gln Thr Arg Gly His  
 850 855 860  
 Asp Trp Arg Met Leu Ala His Lys Leu Asn Leu Asp Arg Tyr Leu Asn  
 865 870 875 880  
 Tyr Phe Ala Thr Lys Ser Ser Pro Thr Gly Val Ile Leu Asp Leu Trp  
 885 890 895  
 Glu Ala Gln Asn Phe Pro Asp Gly Asn Leu Ser Met Leu Ala Ala Val  
 900 905 910  
 Leu Glu Glu Met Gly Arg His Glu Thr Val Val Ser Leu Ala Ala Glu  
 915 920 925  
 Gly Gln Tyr  
 930

<210> 119  
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 <212> PRT  
 <213> *Caenorhabditis elegans*

<400> 119  
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 Gly Tyr Leu Leu Gln Met Leu Val Leu Pro Ala Leu Ala Leu Leu Ser  
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 Ala Ser Gly Thr Gly Ser Ala Ala Gln Asp Asp Asp Phe Phe His Glu  
 35 40 45  
 Leu Pro Glu Thr Phe Pro Ser Asp Pro Pro Glu Pro Leu Pro His Phe  
 50 55 60  
 Leu Ile Glu Pro Glu Glu Ala Tyr Ile Val Lys Asn Lys Pro Val Asn  
 65 70 75 80  
 Leu Tyr Cys Lys Ala Ser Pro Ala Thr Gln Ile Tyr Phe Lys Cys Asn  
 85 90 95  
 Ser Glu Trp Val His Gln Lys Asp His Ile Val Asp Glu Arg Val Asp  
 100 105 110  
 Glu Thr Ser Gly Leu Ile Val Arg Glu Val Ser Ile Glu Ile Ser Arg  
 115 120 125  
 Gln Gln Val Glu Glu Leu Phe Gly Pro Glu Asp Tyr Trp Cys Gln Cys  
 130 135 140  
 Val Ala Trp Ser Ser Ala Gly Thr Thr Lys Ser Arg Lys Ala Tyr Val  
 145 150 155 160



Arg Ile Ala Tyr Leu Arg Lys Thr Phe Glu Gln Glu Pro Leu Gly Lys  
 165 170 175

Glu Val Ser Leu Glu Gln Glu Val Leu Leu Gln Cys Arg Pro Pro Glu  
 180 185 190

Gly Ile Pro Val Ala Glu Val Glu Trp Leu Lys Asn Glu Asp Ile Ile  
 195 200 205

Asp Pro Val Glu Asp Arg Asn Phe Tyr Ile Thr Ile Asp His Asn Leu  
 210 215 220

Ile Ile Lys Gln Ala Arg Leu Ser Asp Thr Ala Asn Tyr Thr Cys Val  
 225 230 235 240

Ala Lys Asn Ile Val Ala Lys Arg Lys Ser Thr Thr Ala Thr Val Ile  
 245 250 255

Val Tyr Val Asn Gly Gly Trp Ser Thr Trp Thr Glu Trp Ser Val Cys  
 260 265 270

Asn Ser Arg Cys Gly Arg Gly Tyr Gln Lys Arg Thr Arg Thr Cys Thr  
 275 280 285

Asn Pro Ala Pro Leu Asn Gly Gly Ala Phe Cys Glu Gly Gln Ser Val  
 290 295 300

Gln Lys Ile Ala Cys Thr Thr Leu Cys Pro Val Asp Gly Arg Trp Thr  
 305 310 315 320

Pro Trp Ser Lys Trp Ser Thr Cys Gly Thr Glu Cys Thr His Trp Arg  
 325 330 335

Arg Arg Glu Cys Thr Ala Pro Ala Pro Lys Asn Gly Gly Lys Asp Cys  
 340 345 350

Asp Gly Leu Val Leu Gln Ser Lys Asn Cys Thr Asp Gly Leu Cys Met  
 355 360 365

Gln Thr Ala Pro Asp Ser Asp Asp Val Ala Leu Tyr Val Gly Ile Val  
 370 375 380

Ile Ala Val Ile Val Cys Leu Ala Ile Ser Val Val Val Ala Leu Phe  
 385 390 395 400

Val Tyr Arg Lys Asn His Arg Asp Phe Glu Ser Asp Ile Ile Asp Ser  
 405 410 415

Ser Ala Leu Asn Gly Gly Phe Gln Pro Val Asn Ile Lys Ala Ala Arg  
 420 425 430

Gln Asp Leu Leu Ala Val Pro Pro Asp Leu Thr Ser Ala Ala Ala Met  
 435 440 445

Tyr Arg Gly Pro Val Tyr Ala Leu His Asp Val Ser Asp Lys Ile Pro  
 450 455 460

Met	Thr	Asn	Ser	Pro	Ile	Leu	Asp	Pro	Leu	Pro	Asn	Leu	Lys	Ile	Lys	
465					470					475					480	
Val	Tyr	Asn	Thr	Ser	Gly	Ala	Val	Thr	Pro	Gln	Asp	Asp	Leu	Ser	Glu	
				485					490					495		
Phe	Thr	Ser	Lys	Leu	Ser	Pro	Gln	Met	Thr	Gln	Ser	Leu	Leu	Glu	Asn	
			500					505					510			
Glu	Ala	Leu	Ser	Leu	Lys	Asn	Gln	Ser	Leu	Ala	Arg	Gln	Thr	Asp	Pro	
		515					520					525				
Ser	Cys	Thr	Ala	Phe	Gly	Ser	Phe	Asn	Ser	Leu	Gly	Gly	His	Leu	Ile	
	530	.				535					540					
Val	Pro	Asn	Ser	Gly	Val	Ser	Leu	Leu	Ile	Pro	Ala	Gly	Ala	Ile	Pro	
545				550						555					560	
Gln	Gly	Arg	Val	Tyr	Glu	Met	Tyr	Val	Thr	Val	His	Arg	Lys	Glu	Thr	
			565						570					575		
Met	Arg	Pro	Pro	Met	Asp	Asp	Ser	Gln	Thr	Leu	Leu	Thr	Pro	Val	Val	
			580					585					590			
Ser	Cys	Gly	Pro	Pro	Gly	Ala	Leu	Leu	Thr	Arg	Pro	Val	Val	Leu	Thr	
		595					600					605				
Met	His	His	Cys	Ala	Asp	Pro	Asn	Thr	Glu	Asp	Trp	Lys	Ile	Leu	Leu	
	610					615					620					
Lys	Asn	Gln	Ala	Ala	Gln	Gly	Gln	Trp	Glu	Asp	Val	Val	Val	Val	Gly	
625					630					635					640	
Glu	Glu	Asn	Phe	Thr	Thr	Pro	Cys	Tyr	Ile	Lys	Leu	Asp	Ala	Glu	Ala	
			645						650					655		
Cys	His	Ile	Leu	Thr	Glu	Asn	Leu	Ser	Thr	Tyr	Ala	Leu	Val	Gly	His	
			660					665					670			
Ser	Thr	Thr	Lys	Ala	Ala	Ala	Lys	Arg	Leu	Lys	Leu	Ala	Ile	Phe	Gly	
		675					680					685				
Pro	Leu	Cys	Cys	Ser	Ser	Leu	Glu	Tyr	Ser	Ile	Arg	Val	Tyr	Cys	Leu	
	690					695					700					
Asp	Asp	Thr	Gln	Asp	Ala	Leu	Lys	Glu	Ile	Leu	His	Leu	Glu	Arg	Gln	
705					710					715					720	
Thr	Gly	Gly	Gln	Leu	Leu	Glu	Glu	Pro	Lys	Ala	Leu	His	Phe	Lys	Gly	
			725						730					735		
Ser	Thr	His	Asn	Leu	Arg	Leu	Ser	Ile	His	Asp	Ile	Ala	His	Ser	Leu	
			740					745					750			
Trp	Lys	Ser	Lys	Leu	Leu	Ala	Lys	Tyr	Gln	Glu	Ile	Pro	Phe	Tyr	His	
		755					760					765				

Val Trp Ser Gly Ser Gln Arg Asn Leu His Cys Thr Phe Thr Leu Glu  
 770 775 780  
 Arg Phe Ser Leu Asn Thr Val Glu Leu Val Cys Lys Leu Cys Val Arg  
 785 790 795 800  
 Gln Val Glu Gly Glu Gly Gln Ile Phe Gln Leu Asn Cys Thr Val Ser  
 805 810 815  
 Glu Glu Pro Thr Gly Ile Asp Leu Pro Leu Leu Asp Pro Ala Asn Thr  
 820 825 830  
 Ile Thr Thr Val Thr Gly Pro Ser Ala Phe Ser Ile Pro Leu Pro Ile  
 835 840 845  
 Arg Gln Lys Leu Cys Ser Ser Leu Asp Ala Pro Gln Thr Arg Gly His  
 850 855 860  
 Asp Trp Arg Met Leu Ala His Lys Leu Asn Leu Asp Arg Tyr Leu Asn  
 865 870 875 880  
 Tyr Phe Ala Thr Lys Ser Ser Pro Thr Gly Val Ile Leu Asp Leu Trp  
 885 890 895  
 Glu Ala Gln Asn Phe Pro Asp Gly Asn Leu Ser Met Leu Ala Ala Val  
 900 905 910  
 Leu Glu Glu Met Gly Arg His Glu Thr Val Val Ser Leu Ala Ala Glu  
 915 920 925  
 Gly Gln Tyr  
 930

<210> 120  
 <211> 931  
 <212> PRT  
 <213> *Caenorhabditis elegans*

<400> 120  
 Met Arg Lys Gly Leu Arg Ala Thr Ala Ala Arg Cys Gly Leu Gly Leu  
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 Gly Tyr Leu Leu Gln Met Leu Val Leu Pro Ala Leu Ala Leu Leu Ser  
 20 25 30  
 Ala Ser Gly Thr Gly Ser Ala Ala Gln Asp Asp Asp Phe Phe His Glu  
 35 40 45  
 Leu Pro Glu Thr Phe Pro Ser Asp Pro Pro Glu Pro Leu Pro His Phe  
 50 55 60  
 Leu Ile Glu Pro Glu Glu Ala Tyr Ile Val Lys Asn Lys Pro Val Asn  
 65 70 75 80  
 Leu Tyr Cys Lys Ala Ser Pro Ala Thr Gln Ile Tyr Phe Lys Cys Asn

85					90					95					
Ser	Glu	Trp	Val	His	Gln	Lys	Asp	His	Ile	Val	Asp	Glu	Arg	Val	Asp
			100					105					110		
Glu	Thr	Ser	Gly	Leu	Ile	Val	Arg	Glu	Val	Ser	Ile	Glu	Ile	Ser	Arg
		115					120					125			
Gln	Gln	Val	Glu	Glu	Leu	Phe	Gly	Pro	Glu	Asp	Tyr	Trp	Cys	Gln	Cys
		130				135					140				
Val	Ala	Trp	Ser	Ser	Ala	Gly	Thr	Thr	Lys	Ser	Arg	Lys	Ala	Tyr	Val
145					150					155					160
Arg	Ile	Ala	Tyr	Leu	Arg	Lys	Thr	Phe	Glu	Gln	Glu	Pro	Leu	Gly	Lys
				165					170					175	
Glu	Val	Ser	Leu	Glu	Gln	Glu	Val	Leu	Leu	Gln	Cys	Arg	Pro	Pro	Glu
			180					185					190		
Gly	Ile	Pro	Val	Ala	Glu	Val	Glu	Trp	Leu	Lys	Asn	Glu	Asp	Ile	Ile
		195					200					205			
Asp	Pro	Val	Glu	Asp	Arg	Asn	Phe	Tyr	Ile	Thr	Ile	Asp	His	Asn	Leu
		210				215					220				
Ile	Ile	Lys	Gln	Ala	Arg	Leu	Ser	Asp	Thr	Ala	Asn	Tyr	Thr	Cys	Val
225					230					235					240
Ala	Lys	Asn	Ile	Val	Ala	Lys	Arg	Lys	Ser	Thr	Thr	Ala	Thr	Val	Ile
				245					250					255	
Val	Tyr	Val	Asn	Gly	Gly	Trp	Ser	Thr	Trp	Thr	Glu	Trp	Ser	Val	Cys
			260				265						270		
Asn	Ser	Arg	Cys	Gly	Arg	Gly	Tyr	Gln	Lys	Arg	Thr	Arg	Thr	Cys	Thr
		275					280					285			
Asn	Pro	Ala	Pro	Leu	Asn	Gly	Gly	Ala	Phe	Cys	Glu	Gly	Gln	Ser	Val
		290				295					300				
Gln	Lys	Ile	Ala	Cys	Thr	Thr	Leu	Cys	Pro	Val	Asp	Gly	Arg	Trp	Thr
305					310					315					320
Pro	Trp	Ser	Lys	Trp	Ser	Thr	Cys	Gly	Thr	Glu	Cys	Thr	His	Trp	Arg
				325					330					335	
Arg	Arg	Glu	Cys	Thr	Ala	Pro	Ala	Pro	Lys	Asn	Gly	Gly	Lys	Asp	Cys
			340					345					350		
Asp	Gly	Leu	Val	Leu	Gln	Ser	Lys	Asn	Cys	Thr	Asp	Gly	Leu	Cys	Met
		355					360					365			
Gln	Thr	Ala	Pro	Asp	Ser	Asp	Asp	Val	Ala	Leu	Tyr	Val	Gly	Ile	Val
		370				375					380				
Ile	Ala	Val	Ile	Val	Cys	Leu	Ala	Ile	Ser	Val	Val	Val	Ala	Leu	Phe

385		390		395		400
Val Tyr Arg Lys Asn His Arg Asp Phe Glu Ser Asp Ile Ile Asp Ser						
		405		410		415
Ser Ala Leu Asn Gly Gly Phe Gln Pro Val Asn Ile Lys Ala Ala Arg						
		420		425		430
Gln Asp Leu Leu Ala Val Pro Pro Asp Leu Thr Ser Ala Ala Ala Met						
		435		440		445
Tyr Arg Gly Pro Val Tyr Ala Leu His Asp Val Ser Asp Lys Ile Pro						
		450		455		460
Met Thr Asn Ser Pro Ile Leu Asp Pro Leu Pro Asn Leu Lys Ile Lys						
		465		470		475
Val Tyr Asn Thr Ser Gly Ala Val Thr Pro Gln Asp Asp Leu Ser Glu						
		485		490		495
Phe Thr Ser Lys Leu Ser Pro Gln Met Thr Gln Ser Leu Leu Glu Asn						
		500		505		510
Glu Ala Leu Ser Leu Lys Asn Gln Ser Leu Ala Arg Gln Thr Asp Pro						
		515		520		525
Ser Cys Thr Ala Phe Gly Ser Phe Asn Ser Leu Gly Gly His Leu Ile						
		530		535		540
Val Pro Asn Ser Gly Val Ser Leu Leu Ile Pro Ala Gly Ala Ile Pro						
		545		550		555
Gln Gly Arg Val Tyr Glu Met Tyr Val Thr Val His Arg Lys Glu Thr						
		565		570		575
Met Arg Pro Pro Met Asp Asp Ser Gln Thr Leu Leu Thr Pro Val Val						
		580		585		590
Ser Cys Gly Pro Pro Gly Ala Leu Leu Thr Arg Pro Val Val Leu Thr						
		595		600		605
Met His His Cys Ala Asp Pro Asn Thr Glu Asp Trp Lys Ile Leu Leu						
		610		615		620
Lys Asn Gln Ala Ala Gln Gly Gln Trp Glu Asp Val Val Val Val Gly						
		625		630		635
Glu Glu Asn Phe Thr Thr Pro Cys Tyr Ile Gln Leu Asp Ala Glu Ala						
		645		650		655
Cys His Ile Leu Thr Glu Asn Leu Ser Thr Tyr Ala Leu Val Gly His						
		660		665		670
Ser Thr Thr Lys Ala Ala Ala Lys Arg Leu Lys Leu Ala Ile Phe Gly						
		675		680		685
Pro Leu Cys Cys Ser Ser Leu Glu Tyr Ser Ile Arg Val Tyr Cys Leu						

690	695	700
Asp Asp Thr Gln Asp Ala Leu Lys Glu Ile Leu His Leu Glu Arg Gln		
705	710	715 720
Thr Gly Gly Gln Leu Leu Glu Glu Pro Lys Ala Leu His Phe Lys Gly		
	725	730 735
Ser Thr His Asn Leu Arg Leu Ser Ile His Asp Ile Ala His Ser Leu		
	740	745 750
Trp Lys Ser Lys Leu Leu Ala Lys Tyr Gln Glu Ile Pro Phe Tyr His		
	755	760 765
Val Trp Ser Gly Ser Gln Arg Asn Leu His Cys Thr Phe Thr Leu Glu		
	770	775 780
Arg Phe Ser Leu Asn Thr Val Glu Leu Val Cys Lys Leu Cys Val Arg		
	785	790 795 800
Gln Val Glu Gly Glu Gly Gln Ile Phe Gln Leu Asn Cys Thr Val Ser		
	805	810 815
Glu Glu Pro Thr Gly Ile Asp Leu Pro Leu Leu Asp Pro Ala Asn Thr		
	820	825 830
Ile Thr Thr Val Thr Gly Pro Ser Ala Phe Ser Ile Pro Leu Pro Ile		
	835	840 845
Arg Gln Lys Leu Cys Ser Ser Leu Asp Ala Pro Gln Thr Arg Gly His		
	850	855 860
Asp Trp Arg Met Leu Ala His Lys Leu Asn Leu Asp Arg Tyr Leu Asn		
	865	870 875 880
Tyr Phe Ala Thr Lys Ser Ser Pro Thr Gly Val Ile Leu Asp Leu Trp		
	885	890 895
Glu Ala Gln Asn Phe Pro Asp Gly Asn Leu Ser Met Leu Ala Ala Val		
	900	905 910
Leu Glu Glu Met Gly Arg His Glu Thr Val Val Ser Leu Ala Ala Glu		
	915	920 925
Gly Gln Tyr		
930		

<210> 121  
 <211> 945  
 <212> PRT  
 <213> Rattus norvegicus

<400> 121  
 Met Arg Ala Arg Ser Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu  
 1 5 10 15

Leu Cys Trp Asp Pro Thr Pro Ser Leu Ala Gly Ile Asp Ser Gly Gly  
                   20                  25                  30  
 Gln Ala Leu Pro Asp Ser Phe Pro Ser Ala Pro Ala Glu Gln Leu Pro  
                   35                  40                  45  
 His Phe Leu Leu Glu Pro Glu Asp Ala Tyr Ile Val Lys Asn Lys Pro  
           50                  55                  60  
 Val Glu Leu His Cys Arg Ala Phe Pro Ala Thr Gln Ile Tyr Phe Lys  
   65                  70                  75                  80  
 Cys Asn Gly Glu Trp Val Ser Gln Lys Gly His Val Thr Gln Glu Ser  
                   85                  90                  95  
 Leu Asp Glu Ala Thr Gly Leu Arg Ile Arg Glu Val Gln Ile Glu Val  
                   100                  105                  110  
 Ser Arg Gln Gln Val Glu Glu Leu Phe Gly Leu Glu Asp Tyr Trp Cys  
                   115                  120                  125  
 Gln Cys Val Ala Trp Ser Ser Ser Gly Thr Thr Lys Ser Arg Arg Ala  
                   130                  135                  140  
 Tyr Ile Arg Ile Ala Tyr Leu Arg Lys Asn Phe Asp Gln Glu Pro Leu  
   145                  150                  155                  160  
 Ala Lys Glu Val Pro Leu Asp His Glu Val Leu Leu Gln Cys Arg Pro  
                   165                  170                  175  
 Pro Glu Gly Val Pro Val Ala Glu Val Glu Trp Leu Lys Asn Glu Asp  
                   180                  185                  190  
 Val Ile Asp Pro Ala Gln Asp Thr Asn Phe Leu Leu Thr Ile Asp His  
                   195                  200                  205  
 Asn Leu Ile Ile Arg Gln Ala Arg Leu Ser Asp Thr Ala Asn Tyr Thr  
                   210                  215                  220  
 Cys Val Ala Lys Asn Ile Val Ala Lys Arg Arg Ser Thr Thr Ala Thr  
   225                  230                  235                  240  
 Val Ile Val Tyr Val Asn Gly Gly Trp Ser Ser Trp Ala Glu Trp Ser  
                   245                  250                  255  
 Pro Cys Ser Asn Arg Cys Gly Arg Gly Trp Gln Lys Arg Thr Arg Thr  
                   260                  265                  270  
 Cys Thr Asn Pro Ala Pro Leu Asn Gly Gly Ala Phe Cys Glu Gly Gln  
                   275                  280                  285  
 Ala Cys Gln Lys Thr Ala Cys Thr Thr Val Cys Pro Val Asp Gly Ala  
                   290                  295                  300  
 Trp Thr Glu Trp Ser Lys Trp Ser Ala Cys Ser Thr Glu Cys Ala His  
   305                  310                  315                  320

Trp Arg Ser Arg Glu Cys Met Ala Pro Pro Pro Gln Asn Gly Gly Arg  
 325 330 335  
 Asp Cys Ser Gly Thr Leu Leu Asp Ser Lys Asn Cys Thr Asp Gly Leu  
 340 345 350  
 Cys Val Leu Asn Gln Arg Thr Leu Asn Asp Pro Lys Ser Arg Pro Leu  
 355 360 365  
 Glu Pro Ser Gly Asp Val Ala Leu Tyr Ala Gly Leu Val Val Ala Val  
 370 375 380  
 Phe Val Val Leu Ala Val Leu Met Ala Val Gly Val Ile Val Tyr Arg  
 385 390 395 400  
 Arg Asn Cys Arg Asp Phe Asp Thr Asp Ile Thr Asp Ser Ser Ala Ala  
 405 410 415  
 Leu Thr Gly Gly Phe His Pro Val Asn Phe Lys Thr Ala Arg Pro Ser  
 420 425 430  
 Asn Pro Gln Leu Leu His Pro Ser Ala Pro Pro Asp Leu Thr Ala Ser  
 435 440 445  
 Ala Gly Ile Tyr Arg Gly Pro Val Tyr Ala Leu Gln Asp Ser Ala Asp  
 450 455 460  
 Lys Ile Pro Met Thr Asn Ser Pro Leu Leu Asp Pro Leu Pro Ser Leu  
 465 470 475 480  
 Lys Ile Lys Val Tyr Asp Ser Ser Thr Ile Gly Ser Gly Ala Gly Leu  
 485 490 495  
 Ala Asp Gly Ala Asp Leu Leu Gly Val Leu Pro Pro Gly Thr Tyr Pro  
 500 505 510  
 Gly Asp Phe Ser Arg Asp Thr His Phe Leu His Leu Arg Ser Ala Ser  
 515 520 525  
 Leu Gly Ser Gln His Leu Leu Gly Leu Pro Arg Asp Pro Ser Ser Ser  
 530 535 540  
 Val Ser Gly Thr Phe Gly Cys Leu Gly Gly Arg Leu Thr Ile Pro Gly  
 545 550 555 560  
 Thr Gly Val Ser Leu Leu Val Pro Asn Gly Ala Ile Pro Gln Gly Lys  
 565 570 575  
 Phe Tyr Asp Leu Tyr Leu Arg Ile Asn Lys Thr Glu Ser Thr Leu Pro  
 580 585 590  
 Leu Ser Glu Gly Ser Gln Thr Val Leu Ser Pro Ser Val Thr Cys Gly  
 595 600 605  
 Pro Thr Gly Leu Leu Leu Cys Arg Pro Val Val Leu Thr Val Pro His  
 610 615 620



Cys Ala Glu Val Ile Ala Gly Asp Trp Ile Phe Gln Leu Lys Thr Gln  
 625 630 635 640  
 Ala His Gln Gly His Trp Glu Glu Val Val Thr Leu Asp Glu Glu Thr  
 645 650 655  
 Leu Asn Thr Pro Cys Tyr Cys Gln Leu Glu Ala Lys Ser Cys His Ile  
 660 665 670  
 Leu Leu Asp Gln Leu Gly Thr Tyr Val Phe Thr Gly Glu Ser Tyr Ser  
 675 680 685  
 Arg Ser Ala Val Lys Arg Leu Gln Leu Ala Ile Phe Ala Pro Ala Leu  
 690 695 700  
 Cys Thr Ser Leu Glu Tyr Ser Leu Arg Val Tyr Cys Leu Glu Asp Thr  
 705 710 715 720  
 Pro Ala Ala Leu Lys Glu Val Leu Glu Leu Glu Arg Thr Leu Gly Gly  
 725 730 735  
 Tyr Leu Val Glu Glu Pro Lys Thr Leu Leu Phe Lys Asp Ser Tyr His  
 740 745 750  
 Asn Leu Arg Leu Ser Leu His Asp Ile Pro His Ala His Trp Arg Ser  
 755 760 765  
 Lys Leu Leu Ala Lys Tyr Gln Glu Ile Pro Phe Tyr His Val Trp Asn  
 770 775 780  
 Gly Ser Gln Lys Ala Leu His Cys Thr Phe Thr Leu Glu Arg His Ser  
 785 790 795 800  
 Leu Ala Ser Thr Glu Phe Thr Cys Lys Val Cys Val Arg Gln Val Glu  
 805 810 815  
 Gly Glu Gly Gln Ile Phe Gln Leu His Thr Thr Leu Ala Glu Thr Pro  
 820 825 830  
 Ala Gly Ser Leu Asp Ala Leu Cys Ser Ala Pro Gly Asn Ala Ala Thr  
 835 840 845  
 Thr Gln Leu Gly Pro Tyr Ala Phe Lys Ile Pro Leu Ser Ile Arg Gln  
 850 855 860  
 Lys Ile Cys Asn Ser Leu Asp Ala Pro Asn Ser Arg Gly Asn Asp Trp  
 865 870 875 880  
 Arg Leu Leu Ala Gln Lys Leu Ser Met Asp Arg Tyr Leu Asn Tyr Phe  
 885 890 895  
 Ala Thr Lys Ala Ser Pro Thr Gly Val Ile Leu Asp Leu Trp Glu Ala  
 900 905 910  
 Arg Gln Gln Asp Asp Gly Asp Leu Asn Ser Leu Ala Ser Ala Leu Glu  
 915 920 925

Glu Met Gly Lys Ser Glu Met Leu Val Ala Met Thr Thr Asp Gly Asp  
 930 935 940

Cys  
 945

<210> 122  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: U5 Consensus  
 Sequence

<400> 122  
 Pro Ser Phe Leu Val Ser Gly Thr Phe Asp Ala Arg Gly Gly Arg Leu  
 1 5 10 15  
 Arg Gly Pro Arg Thr Gly Val Arg Leu Ile Ile Pro Pro Gly Ala Ile  
 20 25 30  
 Pro Gln Gly Thr Arg Tyr Thr Cys Tyr Leu Val Val His Asp Lys Leu  
 35 40 45  
 Ser Thr Pro Pro Pro Leu Glu Glu Gly Glu Thr Leu Leu Ser Pro Val  
 50 55 60  
 Val Glu Cys Gly Pro His Gly Ala Leu Phe Leu Arg Pro Val Ile Leu  
 65 70 75 80  
 Glu Val Pro His Cys Ala Ser Leu Arg Pro Arg Asp Trp Glu Ile Val  
 85 90 95  
 Leu Leu Arg Ser Glu Asn Gly Gly  
 100

<210> 123  
 <211> 104  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: U5 Consensus  
 Sequence

<400> 123  
 Ser Gly Phe Leu Val Ser Gly Thr Phe Asp Ala Arg Gly Gly Arg Leu  
 1 5 10 15  
 Arg Gly Pro Arg Thr Gly Val Arg Leu Ile Ile Pro Pro Gly Ala Ile  
 20 25 30  
 Pro Gln Gly Thr Arg Tyr Thr Cys Tyr Leu Val Val His Asp Lys Leu  
 35 40 45

Ser Thr Pro Pro Pro Leu Glu Glu Gly Glu Thr Leu Leu Ser Pro Val  
50 55 60

Val Glu Cys Gly Pro His Gly Ala Leu Phe Leu Arg Pro Val Ile Leu  
65 70 75 80

Glu Val Pro His Cys Ala Ser Leu Arg Pro Arg Asp Trp Glu Leu Val  
85 90 95

Leu Leu Arg Ser Glu Asn Gly Gly  
100

<210> 124  
<211> 96  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DEATH domain  
Consensus Sequence

<400> 124  
Pro Pro Gly Ala Ala Ser Leu Thr Glu Leu Thr Arg Glu Lys Leu Ala  
1 5 10 15

Lys Leu Leu Asp His Asp Leu Gly Asp Asp Trp Arg Glu Leu Ala Arg  
20 25 30

Lys Leu Gly Leu Ser Glu Ala Asp Ile Asp Gln Ile Glu Thr Glu Ser  
35 40 45

Pro Arg Asp Leu Ala Glu Gln Ser Tyr Gln Leu Leu Arg Leu Trp Glu  
50 55 60

Gln Arg Glu Gly Lys Asn Ala Thr Leu Gly Thr Leu Leu Glu Ala Leu  
65 70 75 80

Arg Lys Met Gly Arg Asp Asp Ala Val Glu Leu Leu Arg Ser Glu Leu  
85 90 95

<210> 125  
<211> 51  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Thrombospondin  
Type 1 Consensus Sequence

<400> 125  
Trp Gly Glu Trp Ser Glu Trp Ser Pro Cys Ser Val Thr Cys Gly Gly

1	5	10	15
Gly Val Gln Thr Arg Thr Arg Cys Cys Asn Pro Pro Pro Asn Gly Gly	20	25	30
Gly Pro Cys Thr Gly Pro Asp Thr Glu Thr Arg Ala Cys Asn Glu Gln	35	40	45
Pro Cys Pro	50		

<210> 126  
 <211> 83  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Death Domain  
 Consensus Sequence

<400> 126
Arg Glu Leu Cys Lys Leu Leu Asp Asp Pro Leu Gly Arg Asp Trp Arg
1 5 10 15
Arg Leu Ala Arg Lys Leu Gly Leu Ser Glu Glu Glu Ile Asp Gln Ile
20 25 30
Glu His Glu Asn Pro Arg Leu Ala Ser Pro Thr Tyr Gln Leu Leu Asp
35 40 45
Leu Trp Glu Gln Arg Gly Gly Lys Asn Ala Thr Val Gly Thr Leu Leu
50 55 60
Glu Ala Leu Arg Lys Met Gly Arg Asp Asp Ala Val Glu Leu Leu Glu
65 70 75 80
Ser Ala Leu

<210> 127  
 <211> 48  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Thrombospondin  
 Type 1 Consensus Sequence

<400> 127
Ser Pro Trp Ser Glu Trp Ser Pro Cys Ser Val Thr Cys Gly Lys Gly
1 5 10 15
Ile Arg Thr Arg Gln Arg Thr Cys Asn Ser Pro Ala Gly Gly Lys Pro
20 25 30

Cys Thr Gly Asp Ala Gln Glu Thr Glu Ala Cys Met Met Asp Pro Cys  
 35 40 45

<210> 128  
 <211> 63  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Immunoglobulin  
 C-2 Consensus Sequence

<400> 128  
 Leu Glu Gly Glu Ser Val Thr Leu Thr Cys Pro Ala Ser Gly Asp Pro  
 1 5 10 15  
 Val Pro Asn Ile Thr Trp Leu Lys Asp Gly Lys Pro Leu Pro Glu Ser  
 20 25 30  
 Arg Val Val Ala Ser Gly Ser Thr Leu Thr Ile Lys Asn Val Ser Leu  
 35 40 45  
 Glu Asp Ser Gly Leu Tyr Thr Cys Val Ala Arg Asn Ser Val Gly  
 50 55 60

<210> 129  
 <211> 56  
 <212> PRT  
 <213> Rattus norvegicus

<400> 129  
 Leu Phe Ala Gln Leu Ala Gln Leu Leu Pro Ala Thr Met Ser Asp Lys  
 1 5 10 15  
 Pro Asp Met Ala Glu Ile Glu Lys Phe Asp Lys Ser Lys Leu Lys Lys  
 20 25 30  
 Thr Glu Thr Gln Glu Lys Asn Pro Leu Pro Ser Lys Glu Thr Ile Glu  
 35 40 45  
 Gln Glu Lys Gln Ala Gly Glu Ser  
 50 55

<210> 130  
 <211> 343  
 <212> PRT  
 <213> Homo sapiens

<400> 130  
 Met Ala Gln Lys Gly Val Leu Gly Pro Gly Gln Leu Gly Ala Val Ala  
 1 5 10 15

Ile Leu Leu Tyr Leu Gly Leu Leu Arg Ser Gly Thr Gly Ala Glu Gly  
 20 25 30  
 Ala Glu Ala Pro Cys Gly Val Ala Pro Gln Ala Arg Ile Thr Gly Gly  
 35 40 45  
 Ser Ser Ala Val Ala Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr  
 50 55 60  
 Glu Gly Val His Val Cys Gly Gly Ser Leu Val Ser Glu Gln Trp Val  
 65 70 75 80  
 Leu Ser Ala Ala His Cys Phe Pro Ser Glu His His Lys Glu Ala Tyr  
 85 90 95  
 Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Tyr Ser Glu Asp Ala  
 100 105 110  
 Lys Val Ser Thr Leu Lys Asp Ile Ile Pro His Pro Ser Tyr Leu Gln  
 115 120 125  
 Glu Gly Ser Gln Gly Asp Ile Ala Leu Leu Gln Leu Ser Arg Pro Ile  
 130 135 140  
 Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala  
 145 150 155 160  
 Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val  
 165 170 175  
 Ala Pro Ser Val Ser Leu Leu Thr Pro Lys Pro Leu Gln Gln Leu Glu  
 180 185 190  
 Val Pro Leu Ile Ser Arg Glu Thr Cys Asn Cys Leu Tyr Asn Ile Asp  
 195 200 205  
 Ala Lys Pro Glu Glu Pro His Phe Val Gln Glu Asp Met Val Cys Ala  
 210 215 220  
 Gly Tyr Val Glu Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly  
 225 230 235 240  
 Pro Leu Ser Cys Pro Val Glu Gly Leu Trp Tyr Leu Thr Gly Ile Val  
 245 250 255  
 Ser Trp Gly Asp Ala Cys Gly Ala Arg Asn Arg Pro Gly Val Tyr Thr  
 260 265 270  
 Leu Ala Ser Ser Tyr Ala Ser Trp Ile Gln Ser Lys Val Thr Glu Leu  
 275 280 285  
 Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Ser Asn  
 290 295 300  
 Leu Cys Gly Ser His Leu Ala Phe Ser Ser Ala Pro Ala Gln Gly Leu  
 305 310 315 320

Leu Arg Pro Ile Leu Phe Leu Pro Leu Gly Leu Ala Leu Gly Leu Leu  
325 330 335

Ser Pro Trp Leu Ser Glu His  
340

<210> 131  
<211> 389  
<212> PRT  
<213> Xenopus laevis

<400> 131  
Met Leu Gln Tyr Leu Ser Phe Val Leu Ile Phe Ile His His Gln Ala  
1 5 10 15

Cys Gly Val Pro Val Ile Ser Asn Arg Ile Val Gly Gly Met Asp Ser  
20 25 30

Lys Arg Gly Glu Trp Pro Trp Gln Ile Ser Leu Ser Tyr Lys Ser Asp  
35 40 45

Ser Ile Cys Gly Gly Ser Leu Leu Thr Asp Ser Trp Val Met Thr Ala  
50 55 60

Ala His Cys Ile Asp Ser Leu Asp Val Ser Tyr Tyr Thr Val Tyr Leu  
65 70 75 80

Gly Ala Tyr Gln Leu Ser Ala Pro Asp Asn Ser Thr Val Ser Arg Gly  
85 90 95

Val Lys Ser Ile Thr Lys His Pro Asp Phe Gln Tyr Glu Gly Ser Ser  
100 105 110

Gly Asp Ile Ala Leu Ile Glu Leu Glu Lys Pro Val Thr Phe Thr Pro  
115 120 125

Tyr Ile Leu Pro Ile Cys Leu Pro Ser Gln Asp Val Gln Phe Ala Ala  
130 135 140

Gly Thr Met Cys Trp Val Thr Gly Trp Gly Asn Ile Gln Glu Gly Thr  
145 150 155 160

Pro Leu Ile Ser Pro Lys Thr Ile Gln Lys Ala Glu Val Ala Ile Ile  
165 170 175

Asp Ser Ser Val Cys Gly Thr Met Tyr Glu Ser Ser Leu Gly Tyr Ile  
180 185 190

Pro Asp Phe Ser Phe Ile Gln Glu Asp Met Val Cys Ala Gly Tyr Lys  
195 200 205

Glu Gly Arg Ile Asp Ala Cys Gln Gly Asp Ser Gly Gly Pro Leu Val  
210 215 220

Cys Asn Val Asn Asn Val Trp Leu Gln Leu Gly Ile Val Ser Trp Gly

225                      230                      235                      240  
 Tyr Gly Cys Ala Glu Pro Asn Arg Pro Gly Val Tyr Thr Lys Val Gln  
                                  245                      250                      255  
 Tyr Tyr Gln Asp Trp Leu Lys Thr Asn Val Pro Leu Ile Val Phe Ser  
                                  260                      265                      270  
 Glu Glu Gly Pro Ser Val Ala Pro Ser Ile Gly Pro Ser Ile Ala Pro  
                                  275                      280                      285  
 Ser Phe Gly Pro Ser Leu Gly Pro Arg Gly Val Ala Ser Thr Thr Ile  
                                  290                      295                      300  
 Ser Gln Thr Glu Ala Gln Ser Val Asn Ser Ile Glu Ile Asp Lys Thr  
 305                      310                      315                      320  
 Asn Ser Thr Thr Ile Phe Glu Thr Glu Ala Met Ser Met Ser Asn Asn  
                                  325                      330                      335  
 Thr Thr Met Asn Glu Thr Phe Ser Leu Val Ser Ser Thr Ile Ser Thr  
                                  340                      345                      350  
 Ala Leu Arg Ile Asn Glu Thr Lys Thr Ile Asp Asn Glu Ala Gln Ile  
                                  355                      360                      365  
 His Ala Cys Ser Leu His Thr Ile Ala Leu Thr Leu Ile Tyr Leu Phe  
                                  370                      375                      380  
 Ile Arg Phe Phe Val  
 385

<210> 132  
 <211> 855  
 <212> PRT  
 <213> Homo sapiens

<400> 132  
 Met Gly Ser Asp Arg Ala Arg Lys Gly Gly Gly Gly Pro Lys Asp Phe  
   1                      5                      10                      15  
 Gly Ala Gly Leu Lys Tyr Asn Ser Arg His Glu Lys Val Asn Gly Leu  
                                  20                      25                      30  
 Glu Glu Gly Val Glu Phe Leu Pro Val Asn Asn Val Lys Lys Val Glu  
                                  35                      40                      45  
 Lys His Gly Pro Gly Arg Trp Val Val Leu Ala Ala Val Leu Ile Gly  
                                  50                      55                      60  
 Leu Leu Leu Val Leu Leu Gly Ile Gly Phe Leu Val Trp His Leu Gln  
   65                      70                      75                      80  
 Tyr Arg Asp Val Arg Val Gln Lys Val Phe Asn Gly Tyr Met Arg Ile  
                                  85                      90                      95



Thr Asn Glu Asn Phe Val Asp Ala Tyr Glu Asn Ser Asn Ser Thr Glu  
 100 105 110  
 Phe Val Ser Leu Ala Ser Lys Val Lys Asp Ala Leu Lys Leu Leu Tyr  
 115 120 125  
 Ser Gly Val Pro Phe Leu Gly Pro Tyr His Lys Glu Ser Ala Val Thr  
 130 135 140  
 Ala Phe Ser Glu Gly Ser Val Ile Ala Tyr Tyr Trp Ser Glu Phe Ser  
 145 150 155 160  
 Ile Pro Gln His Leu Val Glu Glu Ala Glu Arg Val Met Ala Glu Glu  
 165 170 175  
 Arg Val Val Met Leu Pro Pro Arg Ala Arg Ser Leu Lys Ser Phe Val  
 180 185 190  
 Val Thr Ser Val Val Ala Phe Pro Thr Asp Ser Lys Thr Val Gln Arg  
 195 200 205  
 Thr Gln Asp Asn Ser Cys Ser Phe Gly Leu His Ala Arg Gly Val Glu  
 210 215 220  
 Leu Met Arg Phe Thr Thr Pro Gly Phe Pro Asp Ser Pro Tyr Pro Ala  
 225 230 235 240  
 His Ala Arg Cys Gln Trp Ala Leu Arg Gly Asp Ala Asp Ser Val Leu  
 245 250 255  
 Ser Leu Thr Phe Arg Ser Phe Asp Leu Ala Ser Cys Asp Glu Arg Gly  
 260 265 270  
 Ser Asp Leu Val Thr Val Tyr Asn Thr Leu Ser Pro Met Glu Pro His  
 275 280 285  
 Ala Leu Val Gln Leu Cys Gly Thr Tyr Pro Pro Ser Tyr Asn Leu Thr  
 290 295 300  
 Phe His Ser Ser Gln Asn Val Leu Leu Ile Thr Leu Ile Thr Asn Thr  
 305 310 315 320  
 Glu Arg Arg His Pro Gly Phe Glu Ala Thr Phe Phe Gln Leu Pro Arg  
 325 330 335  
 Met Ser Ser Cys Gly Gly Arg Leu Arg Lys Ala Gln Gly Thr Phe Asn  
 340 345 350  
 Ser Pro Tyr Tyr Pro Gly His Tyr Pro Pro Asn Ile Asp Cys Thr Trp  
 355 360 365  
 Asn Ile Glu Val Pro Asn Asn Gln His Val Lys Val Arg Phe Lys Phe  
 370 375 380  
 Phe Tyr Leu Leu Glu Pro Gly Val Pro Ala Gly Thr Cys Pro Lys Asp  
 385 390 395 400

Tyr Val Glu Ile Asn Gly Glu Lys Tyr Cys Gly Glu Arg Ser Gln Phe  
 405 410 415  
 Val Val Thr Ser Asn Ser Asn Lys Ile Thr Val Arg Phe His Ser Asp  
 420 425 430  
 Gln Ser Tyr Thr Asp Thr Gly Phe Leu Ala Glu Tyr Leu Ser Tyr Asp  
 435 440 445  
 Ser Ser Asp Pro Cys Pro Gly Gln Phe Thr Cys Arg Thr Gly Arg Cys  
 450 455 460  
 Ile Arg Lys Glu Leu Arg Cys Asp Gly Trp Ala Asp Cys Thr Asp His  
 465 470 475 480  
 Ser Asp Glu Leu Asn Cys Ser Cys Asp Ala Gly His Gln Phe Thr Cys  
 485 490 495  
 Lys Asn Lys Phe Cys Lys Pro Leu Phe Trp Val Cys Asp Ser Val Asn  
 500 505 510  
 Asp Cys Gly Asp Asn Ser Asp Glu Gln Gly Cys Ser Cys Pro Ala Gln  
 515 520 525  
 Thr Phe Arg Cys Ser Asn Gly Lys Cys Leu Ser Lys Ser Gln Gln Cys  
 530 535 540  
 Asn Gly Lys Asp Asp Cys Gly Asp Gly Ser Asp Glu Ala Ser Cys Pro  
 545 550 555 560  
 Lys Val Asn Val Val Thr Cys Thr Lys His Thr Tyr Arg Cys Leu Asn  
 565 570 575  
 Gly Leu Cys Leu Ser Lys Gly Asn Pro Glu Cys Asp Gly Lys Glu Asp  
 580 585 590  
 Cys Ser Asp Gly Ser Asp Glu Lys Asp Cys Asp Cys Gly Leu Arg Ser  
 595 600 605  
 Phe Thr Arg Gln Ala Arg Val Val Gly Gly Thr Asp Ala Asp Glu Gly  
 610 615 620  
 Glu Trp Pro Trp Gln Val Ser Leu His Ala Leu Gly Gln Gly His Ile  
 625 630 635 640  
 Cys Gly Ala Ser Leu Ile Ser Pro Asn Trp Leu Val Ser Ala Ala His  
 645 650 655  
 Cys Tyr Ile Asp Asp Arg Gly Phe Arg Tyr Ser Asp Pro Thr Gln Trp  
 660 665 670  
 Thr Val Phe Leu Gly Leu His Asp Gln Ser Gln Arg Ser Ala Pro Gly  
 675 680 685  
 Val Gln Glu Arg Arg Leu Lys Arg Ile Ile Ser His Pro Phe Phe Asn  
 690 695 700

Asp Phe Thr Phe Asp Tyr Asp Ile Ala Leu Leu Glu Leu Glu Lys Pro  
 705 710 715 720  
 Ala Glu Tyr Ser Ser Met Val Arg Pro Ile Cys Leu Pro Asp Ala Ser  
 725 730 735  
 His Val Phe Pro Ala Gly Lys Ala Ile Trp Val Thr Gly Trp Gly His  
 740 745 750  
 Thr Gln Tyr Gly Gly Thr Gly Ala Leu Ile Leu Gln Lys Gly Glu Ile  
 755 760 765  
 Arg Val Ile Asn Gln Thr Thr Cys Glu Asn Leu Leu Pro Gln Gln Ile  
 770 775 780  
 Thr Pro Arg Met Met Cys Val Gly Phe Leu Ser Gly Gly Val Asp Ser  
 785 790 795 800  
 Cys Gln Gly Asp Ser Gly Gly Pro Leu Ser Ser Val Glu Ala Asp Gly  
 805 810 815  
 Arg Ile Phe Gln Ala Gly Val Val Ser Trp Gly Asp Gly Cys Ala Gln  
 820 825 830  
 Arg Asn Lys Pro Gly Val Tyr Thr Arg Leu Pro Leu Phe Arg Asp Trp  
 835 840 845  
 Ile Lys Glu Asn Thr Gly Val  
 850 855  
  
 <210> 133  
 <211> 342  
 <212> PRT  
 <213> Rattus norvegicus  
  
 <400> 133  
 Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Leu Phe  
 1 5 10 15  
 Val Leu Leu Leu Ile Gly Leu Leu Gln Ser Arg Ile Gly Ala Asp Gly  
 20 25 30  
 Thr Glu Ala Ser Cys Gly Ala Val Ile Gln Pro Arg Ile Thr Gly Gly  
 35 40 45  
 Gly Ser Ala Lys Pro Gly Gln Trp Pro Trp Gln Val Ser Ile Thr Tyr  
 50 55 60  
 Asn Gly Val His Val Cys Gly Gly Ser Leu Val Ser Asn Gln Trp Val  
 65 70 75 80  
 Val Ser Ala Ala His Cys Phe Pro Arg Glu His Ser Lys Glu Glu Tyr  
 85 90 95  
 Glu Val Lys Leu Gly Ala His Gln Leu Asp Ser Phe Ser Asn Asp Ile  
 100 105 110

Val Val His Thr Val Ala Gln Ile Ile Ser His Ser Ser Tyr Arg Glu  
 115 120 125  
 Glu Gly Ser Gln Gly Asp Ile Ala Leu Ile Arg Leu Ser Ser Pro Val  
 130 135 140  
 Thr Phe Ser Arg Tyr Ile Arg Pro Ile Cys Leu Pro Ala Ala Asn Ala  
 145 150 155 160  
 Ser Phe Pro Asn Gly Leu His Cys Thr Val Thr Gly Trp Gly His Val  
 165 170 175  
 Ala Pro Ser Val Ser Leu Gln Thr Pro Arg Pro Leu Gln Gln Leu Glu  
 180 185 190  
 Val Pro Leu Ile Ser Arg Glu Thr Cys Ser Cys Leu Tyr Asn Ile Asn  
 195 200 205  
 Ala Val Pro Glu Glu Pro His Thr Ile Gln Gln Asp Met Leu Cys Ala  
 210 215 220  
 Gly Tyr Val Lys Gly Gly Lys Asp Ala Cys Gln Gly Asp Ser Gly Gly  
 225 230 235 240  
 Pro Leu Ser Cys Pro Ile Asp Gly Leu Trp Tyr Leu Ala Gly Ile Val  
 245 250 255  
 Ser Trp Gly Asp Ala Cys Gly Ala Pro Asn Arg Pro Gly Val Tyr Thr  
 260 265 270  
 Leu Thr Ser Thr Tyr Ala Ser Trp Ile His His His Val Ala Glu Leu  
 275 280 285  
 Gln Pro Arg Val Val Pro Gln Thr Gln Glu Ser Gln Pro Asp Gly His  
 290 295 300  
 Leu Cys Asn His His Pro Val Phe Asn Leu Ala Ala Ala Gln Lys Leu  
 305 310 315 320  
 Ser Arg Pro Ile Leu Phe Leu Pro Leu Ser Leu Thr Leu Gly Leu Phe  
 325 330 335  
 Ser Leu Trp Leu Glu His  
 340

<210> 134

<211> 342

<212> PRT

<213> Rattus norvegicus

<400> 134

Met Ala Leu Arg Val Gly Leu Gly Leu Gly Gln Leu Glu Ala Leu Phe  
 1 5 10 15

Ile Leu Leu Leu Ile Gly Leu Leu Gln Ser Arg Ile Gly Ala Asp Gly

20					25					30					
Thr	Glu	Ala	Ser	Cys	Gly	Ala	Val	Ile	Gln	Pro	Arg	Ile	Thr	Gly	Gly
		35					40					45			
Gly	Ser	Ala	Lys	Pro	Gly	Gln	Trp	Pro	Trp	Gln	Val	Ser	Ile	Thr	Tyr
	50					55					60				
Asn	Gly	Val	His	Val	Cys	Gly	Gly	Ser	Leu	Val	Ser	Asn	Gln	Trp	Val
65					70					75					80
Val	Ser	Ala	Ala	His	Cys	Phe	Pro	Arg	Glu	His	Ser	Lys	Glu	Glu	Tyr
				85					90					95	
Glu	Val	Lys	Leu	Gly	Ala	His	Gln	Leu	Asp	Ser	Phe	Ser	Asn	Asp	Ile
			100					105					110		
Val	Val	His	Thr	Val	Ala	Gln	Ile	Ile	Ser	His	Ser	Ser	Tyr	Arg	Glu
		115					120						125		
Glu	Gly	Ser	Gln	Gly	Asp	Ile	Ala	Leu	Ile	Arg	Leu	Ser	Ser	Pro	Val
	130					135					140				
Thr	Phe	Ser	Arg	Tyr	Ile	Arg	Pro	Ile	Cys	Leu	Pro	Ala	Ala	Asn	Ala
145					150					155					160
Ser	Phe	Pro	Asn	Gly	Leu	His	Cys	Thr	Val	Thr	Gly	Trp	Gly	His	Val
				165					170					175	
Ala	Pro	Ser	Val	Ser	Leu	Gln	Thr	Pro	Arg	Pro	Leu	Gln	Gln	Leu	Glu
			180					185					190		
Val	Pro	Leu	Ile	Ser	Arg	Glu	Thr	Cys	Ser	Cys	Leu	Tyr	Asn	Ile	Asn
		195					200					205			
Ala	Val	Pro	Glu	Glu	Pro	His	Thr	Ile	Gln	Gln	Asp	Met	Leu	Cys	Ala
	210					215					220				
Gly	Tyr	Val	Lys	Gly	Gly	Lys	Asp	Ala	Cys	Gln	Gly	Asp	Ser	Gly	Gly
225					230					235					240
Pro	Leu	Ser	Cys	Pro	Ile	Asp	Gly	Leu	Trp	Tyr	Leu	Ala	Gly	Ile	Val
				245					250					255	
Ser	Trp	Gly	Asp	Ala	Cys	Gly	Ala	Pro	Asn	Arg	Pro	Gly	Val	Tyr	Thr
			260					265					270		
Leu	Thr	Ser	Thr	Tyr	Ala	Ser	Trp	Ile	His	His	His	Val	Ala	Glu	Leu
		275					280					285			
Gln	Pro	Arg	Ala	Val	Pro	Gln	Thr	Gln	Glu	Ser	Gln	Pro	Asp	Gly	His
	290					295					300				
Leu	Cys	Asn	His	His	Pro	Val	Phe	Asn	Leu	Ala	Ala	Ala	Gln	Lys	Leu
305					310					315					320
Ser	Arg	Pro	Ile	Leu	Phe	Leu	Pro	Leu	Ser	Leu	Thr	Leu	Gly	Leu	Phe



Ser Tyr Leu Asp Trp Ile  
 225 230

<210> 136  
 <211> 217  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Trypsin  
 Consensus Sequence

<400> 136  
 Ile Val Gly Gly Arg Glu Ala Gln Ala Gly Ser Phe Pro Trp Gln Val  
 1 5 10 15  
 Ser Leu Gln Val Ser Ser Gly His Phe Cys Gly Gly Ser Leu Ile Ser  
 20 25 30  
 Glu Asn Trp Val Leu Thr Ala Ala His Cys Val Ser Gly Ala Ser Ser  
 35 40 45  
 Val Arg Val Val Leu Gly Glu His Asn Leu Gly Thr Thr Glu Gly Thr  
 50 55 60  
 Glu Gln Lys Phe Asp Val Lys Lys Ile Ile Val His Pro Asn Tyr Asn  
 65 70 75 80  
 Pro Asp Thr Asn Asp Ile Ala Leu Leu Lys Leu Lys Ser Pro Val Thr  
 85 90 95  
 Leu Gly Asp Thr Val Arg Pro Ile Cys Leu Pro Ser Ala Ser Ser Asp  
 100 105 110  
 Leu Pro Val Gly Thr Thr Cys Ser Val Ser Gly Trp Gly Arg Thr Lys  
 115 120 125  
 Asn Leu Gly Thr Ser Asp Thr Leu Gln Glu Val Val Val Pro Ile Val  
 130 135 140  
 Ser Arg Glu Thr Cys Arg Ser Ala Tyr Gly Gly Thr Val Thr Asp Thr  
 145 150 155 160  
 Met Ile Cys Ala Gly Ala Leu Gly Gly Lys Asp Ala Cys Gln Gly Asp  
 165 170 175  
 Ser Gly Gly Pro Leu Val Cys Ser Asp Gly Glu Leu Val Gly Ile Val  
 180 185 190  
 Ser Trp Gly Tyr Gly Cys Ala Val Gly Asn Tyr Pro Gly Val Tyr Thr  
 195 200 205  
 Arg Val Ser Arg Tyr Leu Asp Trp Ile  
 210 215

<210> 137  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: NOV2a and b  
         Primer 1  
  
 <400> 137  
 tcaaattgttc agtttttgatt gttgttcttg 30  
  
 <210> 138  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: NOV2a and b  
         Primer 2  
  
 <400> 138  
 tttttgctaa aagcagcaat gccat 25  
  
 <210> 139  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: NOV2c Primer 1  
  
 <400> 139  
 attgacttat gcttcctagt tcgttgc 27  
  
 <210> 140  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: NOV2c Primer 2  
  
 <400> 140  
 caacatttaa aagaatggac gattttca 28  
  
 <210> 141  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>



<223> Description of Artificial Sequence: NOV2d Primer 1

<400> 141  
ctgtattccg gatcgatgca agaag 25

<210> 142  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NOV2d Primer 2

<400> 142  
tcttaaggag aagaaaatct gccgaag 27

<210> 143  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NOV3a Primer 1

<400> 143  
tggaactct aaaaagcaga gcgcctc 27

<210> 144  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NOV3a Primer 2

<400> 144  
cctctaggtg agtcagtgcg tcactct 27

<210> 145  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NOV6 Primer 1

<400> 145  
atggggggcc tgacagc 17

<210> 146  
<211> 25  
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NOV6 Primer 2

<400> 146  
ttatgtggca cagtccatag tctgc 25

<210> 147  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NOV8 Primer 1

<400> 147  
atgatatgtc ttccacatta ctgacattca 30

<210> 148  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NOV8 Primer 2

<400> 148  
ttagagccac aaactaacca gctcat 26

<210> 149  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag3802 Forward  
Primer

<400> 149  
gtcgatggga catctttcct 20

<210> 150  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag3802 Probe  
Primer

<400> 150  
cttcggatca ctatcatcca gtgcca 26

<210> 151  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag3802 Reverse  
         Primer  
  
 <400> 151  
 atgaggaagt agcccacgtt 20  
  
 <210> 152  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag4849 Forward  
         Primer  
  
 <400> 152  
 gccagttcta cctcaagttc ct 22  
  
 <210> 153  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag4849 Probe  
         Primer  
  
 <400> 153  
 ctaccaccat gtgtcccgcc gttt 24  
  
 <210> 154  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag4849 Reverse  
         Primer  
  
 <400> 154  
 catagtcaga gtcgagcagg aa 22  
  
 <210> 155  
 <211> 19  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag400 Forward  
Primer

<400> 155

acgatacctgg gctggacag

19

<210> 156

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag400 Probe  
Primer

<400> 156

catctgcgcg tagccccctcc a

21

<210> 157

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag400 Reverse  
Primer

<400> 157

gcttcaaccc cctcgagttc

20

<210> 158

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag2866 Forward  
Primer

<400> 158

tatgtactcg tggccctga ga

22

<210> 159

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ag2866 Probe  
Primer

<400> 159  
acgtctacag ctttggtac ctccgg 26

<210> 160  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2866 Reverse  
Primer

<400> 160  
agtggctgat gaagtcata ga 22

<210> 161  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag3077 Forward  
Primer

<400> 161  
aatgtggagc tgtgcctgt 19

<210> 162  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag3077 Probe  
Primer

<400> 162  
gactcatgcc aggaatgtgc ccc 23

<210> 163  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag3077  
Reverse Primer

<400> 163  
gaagagacct ttgacgtccc 20

<210> 164  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2908 Forward  
         Primer  
  
 <400> 164  
 attgtttaca tcaaacggca tt 22  
  
 <210> 165  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2908 Probe  
         Primer  
  
 <400> 165  
 aatccttttg aggcccttgt cccata 26  
  
 <210> 166  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2908 Reverse  
         Primer  
  
 <400> 166  
 tcccagttga gactcctact ga 22  
  
 <210> 167  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag1522 Forward  
         Primer  
  
 <400> 167  
 tgacttcgac acagacatca ct 22  
  
 <210> 168  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Ag1522 Probe  
 Primer

<400> 168  
 actcatctgc tgcctgact ggtg 24

<210> 169  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Ag1522 Reverse  
 Primer

<400> 169  
 ccttgccgctc ttaaagttga c 21

<210> 170  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Ag1848 Forward  
 Primer

<400> 170  
 tgacttcgac acagacatca ct 22

<210> 171  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Ag1848 Probe  
 Primer

<400> 171  
 actcatctgc tgcctgact ggtg 24

<210> 172  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Ag1848 Reverse  
 Primer

<400> 172

ccttgccgtc ttaaagttga c 21

<210> 173  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2263 Forward  
Primer

<400> 173  
tgacttcgac acagacatca ct 22

<210> 174  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2263 Probe  
Primer

<400> 174  
actcatctgc tgccctgact ggtg 24

<210> 175  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2263 Reverse  
Primer

<400> 175  
ccttgccgtc ttaaagttga c 21

<210> 176  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2422 Forward  
Primer

<400> 176  
ggctccctgg acactctct 19

<210> 177  
<211> 26



<212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2422 Probe  
         Primer  
  
 <400> 177  
 ctgtcaccac ccagctggga ccttat 26  
  
  
 <210> 178  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2422 Reverse  
         Primer  
  
 <400> 178  
 tggacagtgg gatcttgaag 20  
  
  
 <210> 179  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2421 Forward  
         Primer  
  
 <400> 179  
 tgaggctgag ctctctgtgt 20  
  
  
 <210> 180  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2421 Probe  
         Primer  
  
 <400> 180  
 tctgctaact gtgaaggatc tcacca 26  
  
  
 <210> 181  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2421 Reverse

Primer

<400> 181  
ctggtccaca ttgtcaggaa 20

<210> 182  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2873 Forward  
Primer

<400> 182  
ccctgctcac aagactgact ag 22

<210> 183  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2873 Probe  
Primer

<400> 183  
ctccacgcag tttcaggcat gaag 24

<210> 184  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2873 Reverse  
Primer

<400> 184  
gacattagga gacaacctcc aa 22

<210> 185  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag2878 Forward  
Primer

<400> 185  
catctctaag aatgccctca ga 22

<210> 186  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2878 Probe  
         Primer  
  
 <400> 186  
 cttegctcgc ttacacacct aagcct 26  
  
 <210> 187  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2878 Reverse  
         Primer  
  
 <400> 187  
 gaggggtctcc agatggttat tg 22  
  
 <210> 188  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag1799 Forward  
         Primer  
  
 <400> 188  
 gaccaacggc tttcttcaag 20  
  
 <210> 189  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag1799 Probe  
         Primer  
  
 <400> 189  
 accttccttc ttgcgacttg gacacct 26  
  
 <210> 190  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Ag1799 Reverse  
 Primer  
  
 <400> 190  
 tcagttgttc aaagcacaca aa 22  
  
 <210> 191  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2911 Forward  
 Primer  
  
 <400> 191  
 cagggatgga atgcattatg 20  
  
 <210> 192  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2911 Probe  
 Primer  
  
 <400> 192  
 caatgtcacc tgtactcaga tctgtga 27  
  
 <210> 193  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag2911 Reverse  
 Primer  
  
 <400> 193  
 gctctccaaa gcagtaagga a 21  
  
 <210> 194  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Ag1559 Forward  
 Primer

<400> 194  
caggacctcg gttatcaaca 20

<210> 195  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag1559 Probe  
Primer

<400> 195  
acctacgttg agcaaccgtg ccg 23

<210> 196  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Ag1559 Reverse  
Primer

<400> 196  
atcgtactcg ctggcgtaa 19

<210> 197  
<211> 1062  
<212> DNA  
<213> Homo sapiens

<400> 197  
ggatcctccc agttggagga ggtgtttcac tctgaaaaag agacgaagag ctcaagaata 60  
aaggctgaag aaaaagaggt ggtaagaata aaggctgaag gaaaagagat tgagaacaca 120  
gaagcagtac atcaacaatt ccaaaagttt ttgactgaaa taagcaaact cactaatgat 180  
tatgaactga acataaccaa caggctgttt ggagaaaaaa catacctctt ctttcaaaaa 240  
tacttagatt atgttgaaaa atattatcat gcatctcttg aacctgttga ttttgtaaat 300  
gcagccgatg aaagtcgaaa gaagattaat tcctgggttg aaagcaaaac aaatgaaaaa 360  
atcaaggact tgttcccaga tggctctatt agtagctcta ccaagctggg gctggtgaac 420  
atggtttatt ttaaagggca atgggacagg gagtttaaga aagaaaatac taaggaagag 480  
aaattttgga tgaataagag cacaagtaaa tctgtacaga tgatgacaca gagccattcc 540  
tttagcttca ctttcctgga ggacttgag gccaaaattc tagggattcc atataaaaaac 600  
aacgacctaa gcatgtttgt gcttctgccc aacgacatcg atggcctgga gaagataata 660  
gataaaataa gtcctgagaa attggtagag tggactagtc cagggcatat ggaagaaaga 720  
aagggtgaatc tgcacttgcc ccggtttgag gtggaggaca gttacgatct agaggcgggtc 780  
ctggctgcca tggggatggg cgatgccttc agtgagcaca aagccgacta ctcgggaatg 840  
tcgtcaggct ccgggttgta cgcccagaag ttctgcaca gttcctttgt ggcagtaact 900  
gaggaaggca ccgaggctgc agctgccact ggcataggct ttactgtcac atccgcccc 960  
ggtcatgaaa atgttcactg caatcatccc ttctgttct tcatcaggca caatgaatcc 1020  
aacagcatcc tcttcttcgg cagattttct tctcctctcg ag 1062

<210> 198

<211> 354  
 <212> PRT  
 <213> Homo sapiens

<400> 198

Gly	Ser	Ser	Gln	Leu	Glu	Glu	Val	Phe	His	Ser	Glu	Lys	Glu	Thr	Lys	1	5	10	15
Ser	Ser	Arg	Ile	Lys	Ala	Glu	Glu	Lys	Glu	Val	Val	Arg	Ile	Lys	Ala	20	25	30	
Glu	Gly	Lys	Glu	Ile	Glu	Asn	Thr	Glu	Ala	Val	His	Gln	Gln	Phe	Gln	35	40	45	
Lys	Phe	Leu	Thr	Glu	Ile	Ser	Lys	Leu	Thr	Asn	Asp	Tyr	Glu	Leu	Asn	50	55	60	
Ile	Thr	Asn	Arg	Leu	Phe	Gly	Glu	Lys	Thr	Tyr	Leu	Phe	Leu	Gln	Lys	65	70	75	80
Tyr	Leu	Asp	Tyr	Val	Glu	Lys	Tyr	Tyr	His	Ala	Ser	Leu	Glu	Pro	Val	85	90	95	
Asp	Phe	Val	Asn	Ala	Ala	Asp	Glu	Ser	Arg	Lys	Lys	Ile	Asn	Ser	Trp	100	105	110	
Val	Glu	Ser	Lys	Thr	Asn	Glu	Lys	Ile	Lys	Asp	Leu	Phe	Pro	Asp	Gly	115	120	125	
Ser	Ile	Ser	Ser	Ser	Thr	Lys	Leu	Val	Leu	Val	Asn	Met	Val	Tyr	Phe	130	135	140	
Lys	Gly	Gln	Trp	Asp	Arg	Glu	Phe	Lys	Lys	Glu	Asn	Thr	Lys	Glu	Glu	145	150	155	160
Lys	Phe	Trp	Met	Asn	Lys	Ser	Thr	Ser	Lys	Ser	Val	Gln	Met	Met	Thr	165	170	175	
Gln	Ser	His	Ser	Phe	Ser	Phe	Thr	Phe	Leu	Glu	Asp	Leu	Gln	Ala	Lys	180	185	190	
Ile	Leu	Gly	Ile	Pro	Tyr	Lys	Asn	Asn	Asp	Leu	Ser	Met	Phe	Val	Leu	195	200	205	
Leu	Pro	Asn	Asp	Ile	Asp	Gly	Leu	Glu	Lys	Ile	Ile	Asp	Lys	Ile	Ser	210	215	220	
Pro	Glu	Lys	Leu	Val	Glu	Trp	Thr	Ser	Pro	Gly	His	Met	Glu	Glu	Arg	225	230	235	240
Lys	Val	Asn	Leu	His	Leu	Pro	Arg	Phe	Glu	Val	Glu	Asp	Ser	Tyr	Asp	245	250	255	
Leu	Glu	Ala	Val	Leu	Ala	Ala	Met	Gly	Met	Gly	Asp	Ala	Phe	Ser	Glu	260	265	270	
His	Lys	Ala	Asp	Tyr	Ser	Gly	Met	Ser	Ser	Gly	Ser	Gly	Leu	Tyr	Ala				

275	280	285
Gln Lys Phe Leu His Ser Ser Phe Val Ala Val Thr Glu Glu Gly Thr		
290	295	300
Glu Ala Ala Ala Ala Thr Gly Ile Gly Phe Thr Val Thr Ser Ala Pro		
305	310	315
Gly His Glu Asn Val His Cys Asn His Pro Phe Leu Phe Phe Ile Arg		
325	330	335
His Asn Glu Ser Asn Ser Ile Leu Phe Phe Gly Arg Phe Ser Ser Pro		
340	345	350
Leu Glu		

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